

23-26 Jan 1967

Kilauea Pt., Kauai
Hoff and Huber

24 Jan, 1967

Sera No

1

2

3

4

5

6

7

8



9

10

11

12

25 January

13

14

15

16

17

18

19

Kilauea Point

Band No.

767-50359

60

61

62

63

64

65

767-50341

66

67

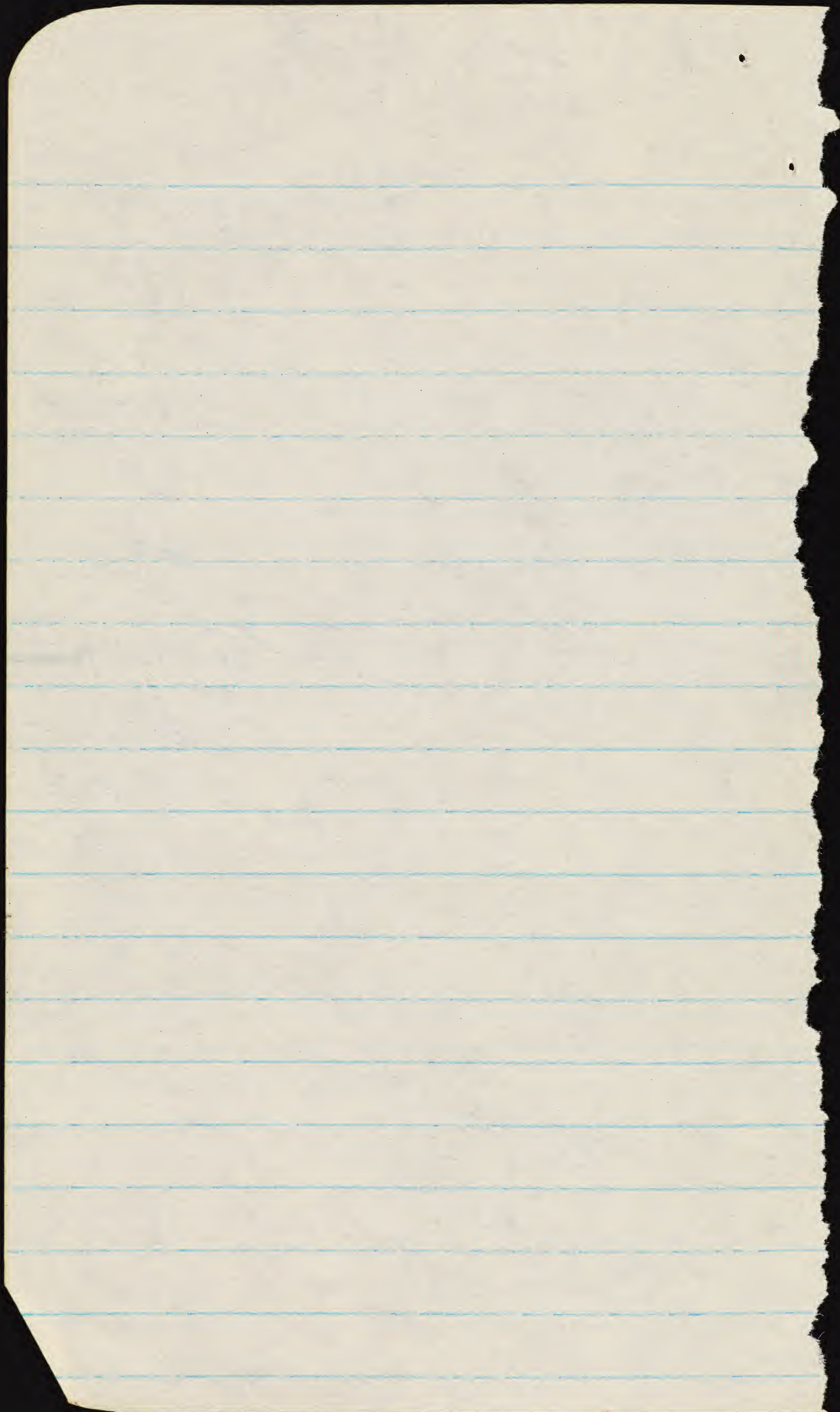
68

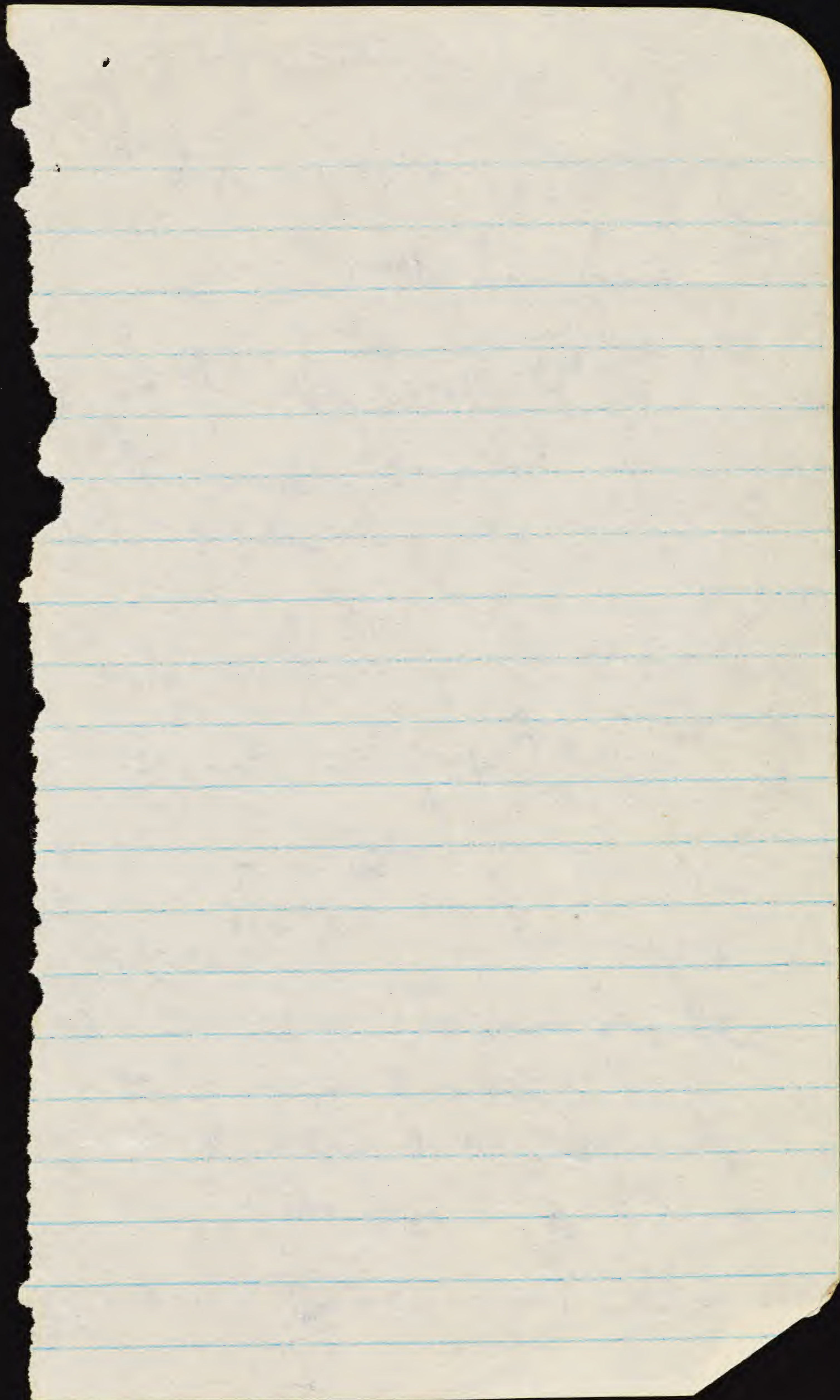
69

70

71

13 banded
one recapture





Huber Notes

Pop est - 1300 ± 100

4 subadults

1 green painted

2 black painted
from last month

just before dark
about 300 birds
observed to take off
at same time scatter
and circle around
for a while and then
land again.
this happened twice.

1 wandering tattler
seen on top of cliff
along edge - flew
down to reef
when disturbed

1 ♂ + 1 ♀ G. Frig
observed flying
over Moco Island
before dark,

about ~~4~~ 430^{P.M.}, six
G. Frig seen about
7 miles down coast
heading in direction
of the Lighthouse

about 60%

~~100%~~ redfoots that
are roosting ~~top~~ below
cliff are in rocks
and ground while
probably 40% in
trees

Use of rope not possible
as it tends to cause
landslides while pulling
ground above climber

ground on cliff where
boobies roost is extremely
dangerous as it is
loose dirt ~~is~~ with
loose rocks scatter
over it.

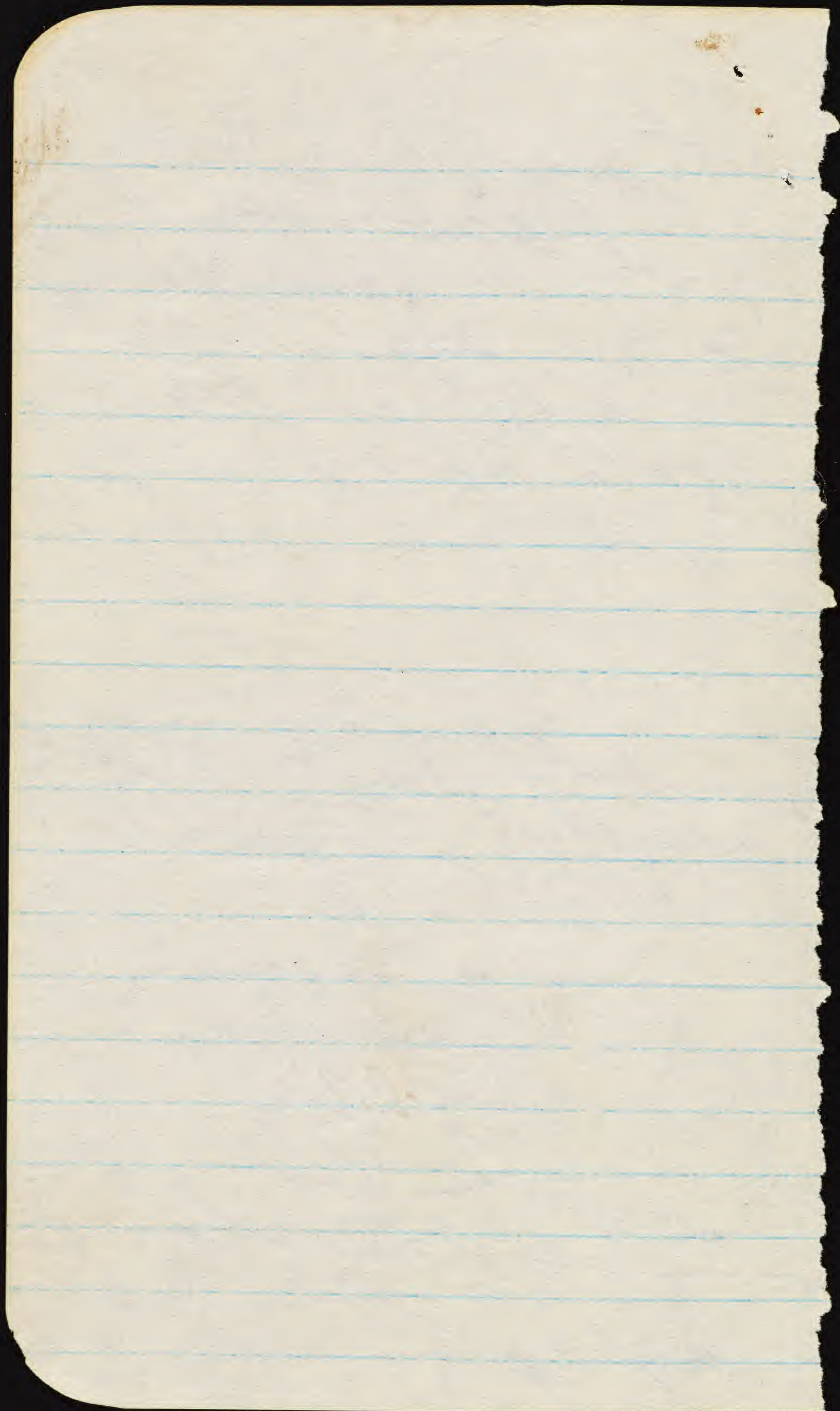
(area cannot be walked)

Not many R-F-Boobies
on Moko - Island
just a few (possibly
20 on ~~the~~ side of
island I could see)
scattered over cliffs
of island

1 mouse seen
while down the
cliff by rope

1 Gecko seen on
rocks of cliff

most birds unbanded
(on safely)



28 Feb - 1 Mar '67

Kilauea Pt., Kauai

Hoff

28 Feb. 1967

Kilauea point

birds began nesting in the
Scaevola portion of #2
and are widely dispersed
along the length & breadth
of the sheer cliff area.

Copulating pairs and nests
crossing is occurring commonly
nests with an abundance of fresh
green material in the are
constructed.

Mar 1, Schreiber & Hoff
one pair nesting along the
precipitous cliff were closely
observed - the fat headed
one was sitting in the center
of the nest and the skinny
headed one was crossing her

necks and then parrotling
it. No mutual preening
was noted.

The birds are
distributed as follows
none in colony #1
good pair formation in #2
at least roughly 100 pairs
in the area.

An even distribution
of birds is noted in the
precipitous cliff area with
the bulk of ca. 450 individuals
in pairs.

A ~~new~~ ~~nest~~ previously
unnoted and possibly
different nesting area
has been established in
the center of the cove
on an abrupt seaward

covered surface from 10
to 40 feet above the beach
line.

ls

Series # Species

Age-Sex

1 15 Rel-Fertd Baby

A-U

2 16

3 17

Aug 65

4 18

5 19

6 20

7 21

8 22

9 23

10 24

11 25

Oahu, Mokapu P

12 26

13 27

14 1 28 March 2, 1967 yellow mandible

15 2 29

blue

16 3 30

"

17 4 31

"

18 5 32

"

19 6 33

yellow

[767-50372]

~~2~~

Color
Phase Status

Band #

Light off nest

767-50372

~~Dark~~ May, 1967
nest R

767-50328 ✓4

FF Shoals
nest R

767-43201 ✓2

May, 65

587-80754 ✓3

73

74

75

76

77

Feb, 64

757-60855 ✓4

out March, 1965

757-89597 ✓5

78

79

Oct, 66

767-50052 ✓6

80

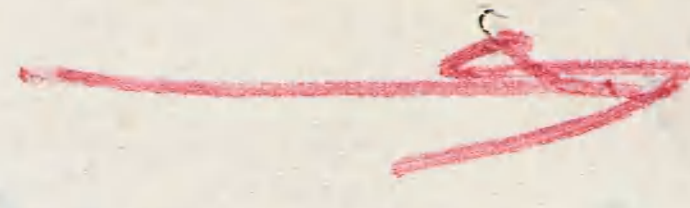
81

82

May, 65 nestlings

587-92890 ✓7

83



19	7	34
20	8	35
21	9	36
22	10	37
23	11	38
	12	39
	13	40
	14	41

Blue

1

Mob
pr

~~2~~

immature Feb, '64

757-60876 8

84

85

86

87

88

767-48 ~~6~~64 9

89

per
mt July, '66

Thurs 2 March




Hanapepe Canyon
white-tailed
Wairua Canyon
noted

Kilauea point Shore
two ♀ Ad.
hovered above
no parasitism

Hanalei valley -

A.

~~Thurs~~ Kilauea point -


Tropicbirds - 1
- Ca. 20 W.T.T.B.

her & Hoff
Great Frigatebirds
the Red-foot cliffs but
was seen

Blue-crowned Night Heron
Short-eared Owl

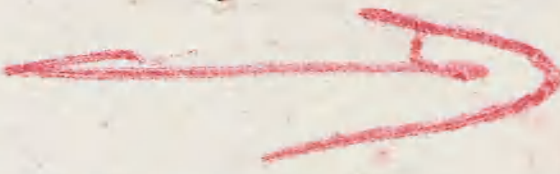
arrived at 1800

sunset at 1842

temp. ~~72°~~

27 K on 7 Mar.

11 K 2 Mar.



the light house tower
and is 60 feet high,



is 140 ft. above Seabed

9 returns

1 FFS 65

1 M.P. 65

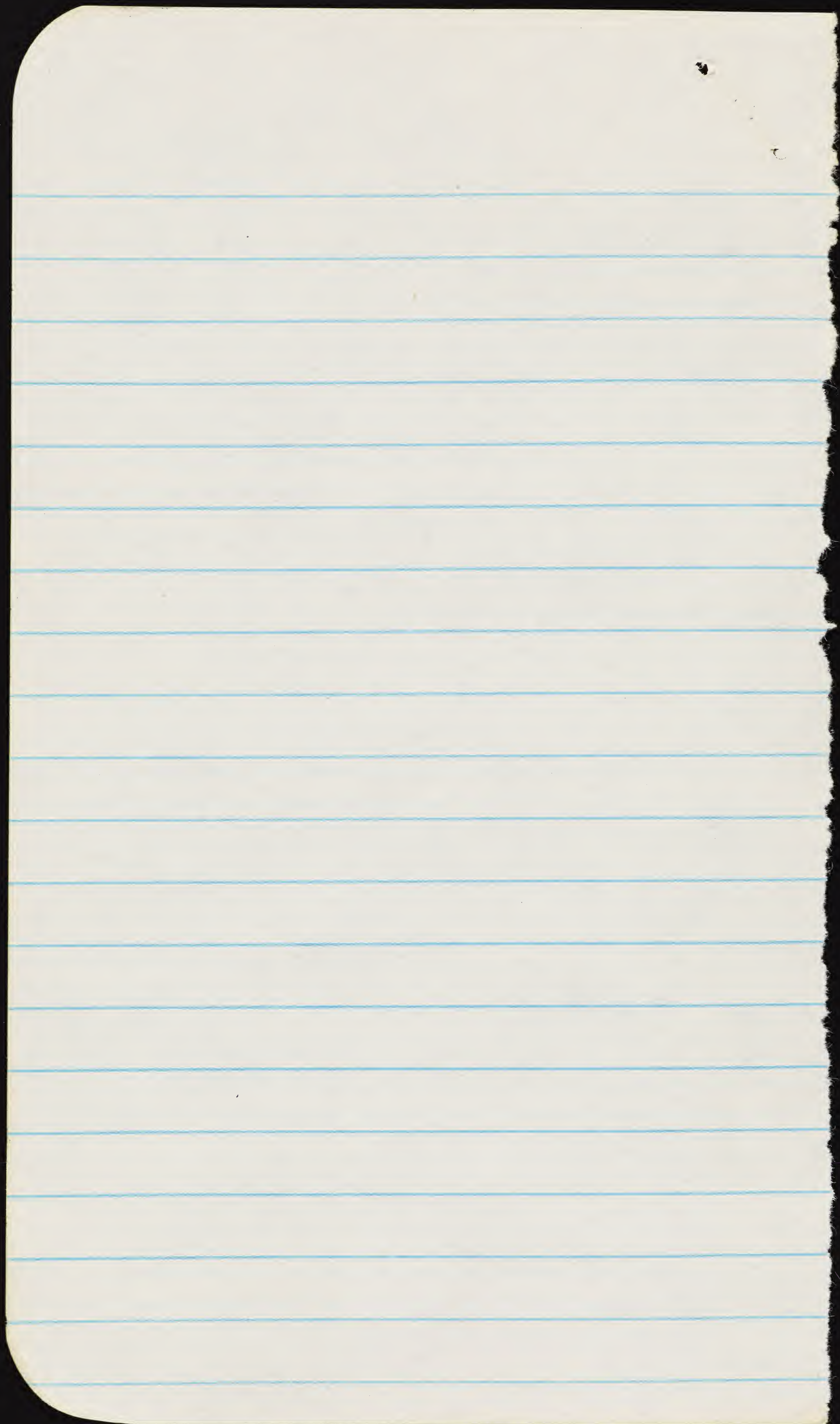
1 M.P. July 66

27 Total Birds

101

27

41



KAUAI

1-5 March 1967

Schreiber

NEW
COLONY

colony
ext 150
(1930)

colony

ROAD

light
room.
power

MAR 7

ARRIVE

AIRPORT

DC-9

DAVE HOFF here - into hotel

I not know sunset time —

DROVE to KILAUEA Point

light house - largest of its kind
very cloudy windy day, seeing
colony along edge of cliff
est 600 feet high —

col SEE

Banded + bled 15 birds in a small
colony at the base of the trail

several of these birds were sitting in
pairs in the colony or nests —
when through after 2 hrs - no birds
remained in this area

SEowl

BE-N Haven

White eye

RICE BIRD

Apopane

Rice Bird

Cookoo Like Bird

COOT

GALINULE

HAWAIIAN DUCK

MEADOW LARK

Golden Plover

Ward Tattlers

MAR 2

2 ♀ GF
+ 1 imm

#3 COLONY

8 sunset + 15 min — 147
+ 30 197

~~mean~~

total count of colony 146
6000 rock on north + 52 in air
of #1

4 WTTD

3 MAR FRM
room 47 col
15 AIR
counted 196
new col
1500h

VERY CLOUDY

	COL	AIR
1 hr	119	14
$\frac{3}{4}$	133	20
$\frac{1}{2}$	169	17
$\frac{1}{4}$	205	33
Set	223	23
$\frac{1}{4}$	246	21
$\frac{1}{2}$	258	7

4 imm 3 sub ad
sub ad - sky point for colony
2 DARK PHASE

LINCOLN
INDEX?

late in the evening movement toward the colony
away from the ocean noticed

(3 black painted seen - probably more
individuals + pairs + 3's + 4's this is for sea
bathing just outside surf
no eggs present I think

SUNNY after 1¹/₄ MAR. Quick light
 PARTLY CLOUDY SAT. Then clear
 RAIN ALL morning

NOON #3 86 col 1 | 89 col ^{AND} 6 pairs
 47 in col 2, 8 in air
 9 WTTB

new COLONY - 184 - 23 pairs

	COL 3	AIR	PAIRS
1 ¹ / ₂	101	8	7
1 ¹ / ₄	115	11	6
1	110	19	10
3/4	135	10	12
1/2	134	17	13
1/4	156	21	18
set	185	21	23
1/4	238	25	29
1/2	250	6	33

sub of sky point (right side of col) dark
 back + head + neck
 return low over water
 over
 sitting side
 side country

Ad ♀ Brown Booby fly by

Seems to be separator between
those in now between ~~those~~ ^{the}
dove & the birds across the point

1 ♀ 6F + 2

chase - or drink

CAN WE ASSUME BDTA
AREAS INCREASE THE
SAME AT DUSK?

many BIRDS entering & flying
above new colony

COUNT # "GROOPS" ARRIVING
FROM SEA

COPULATION

Paint # rather than X's

Pineapples grow higher
than cane

Black Painted ^{WATER} +1 +1

2 at 20 min + - now
seen before this - both land
dory and 2

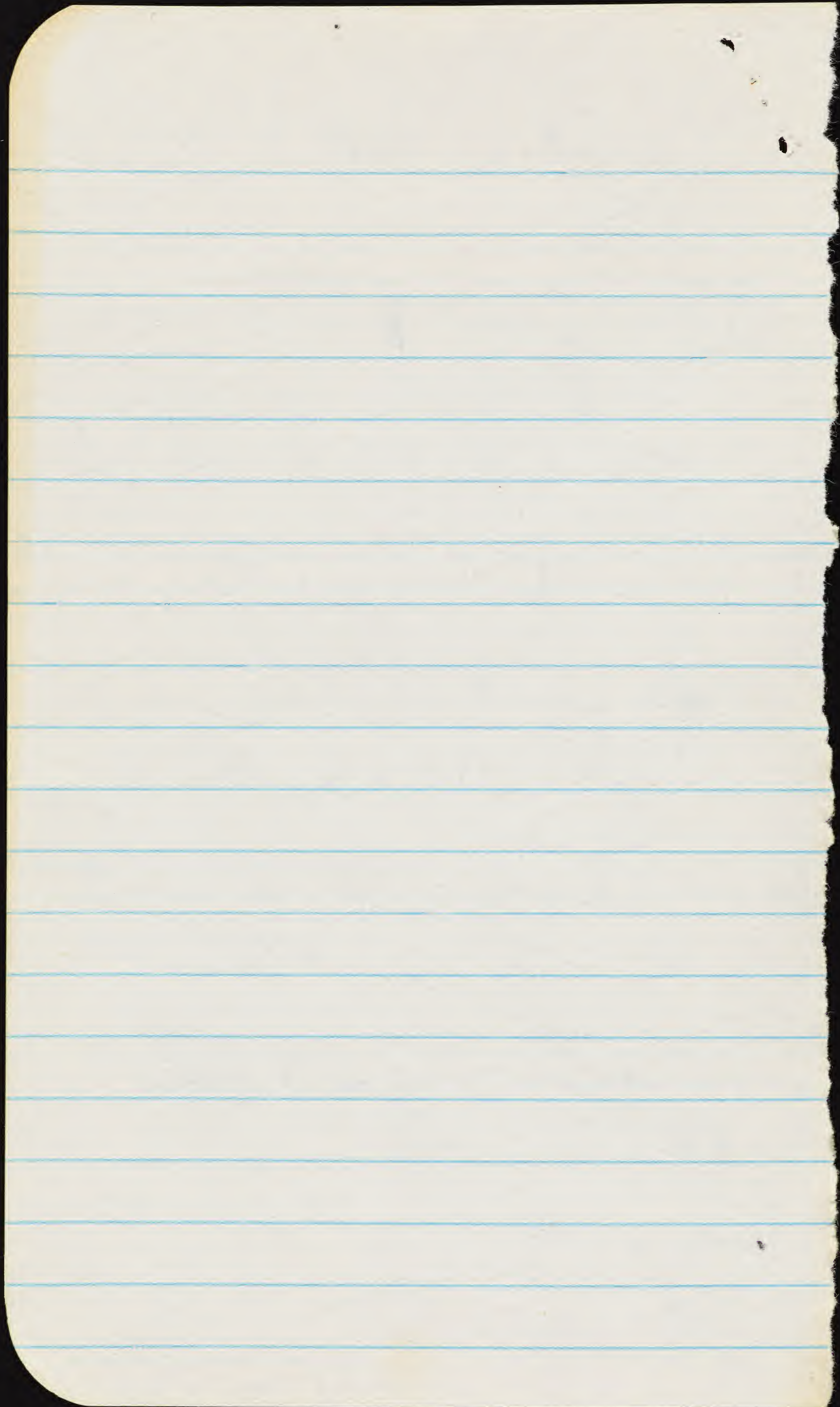
Paint disturbs courtship

effects of disturbance
while sanding

Previous work cause of movement
to new colony - DOGS

noticeable in case is 24 in
AW 10+ sunset

later arrivals high + circle down
power line -

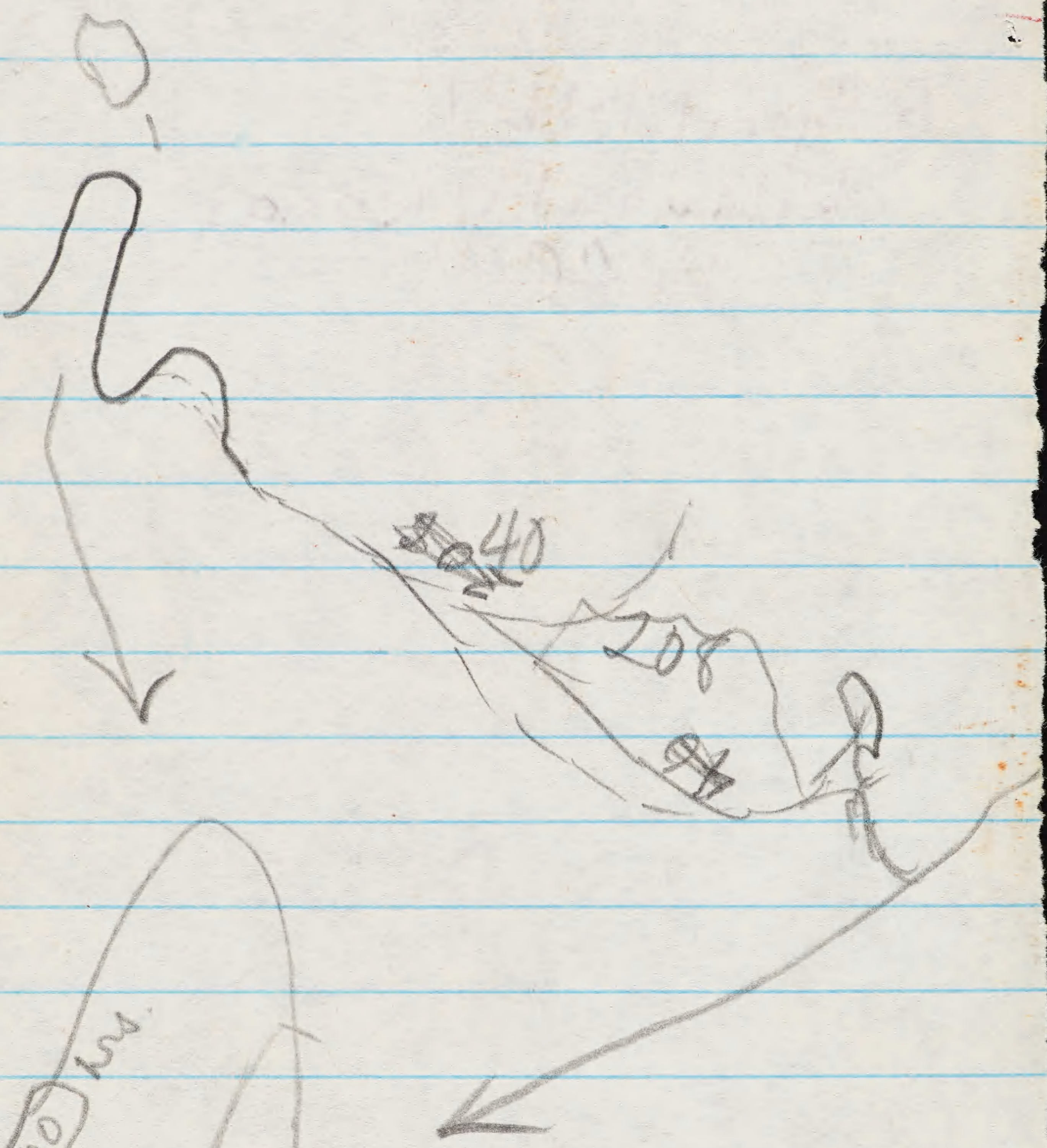


5 April 1967

Kilauea Pt., Kauai

Hoff

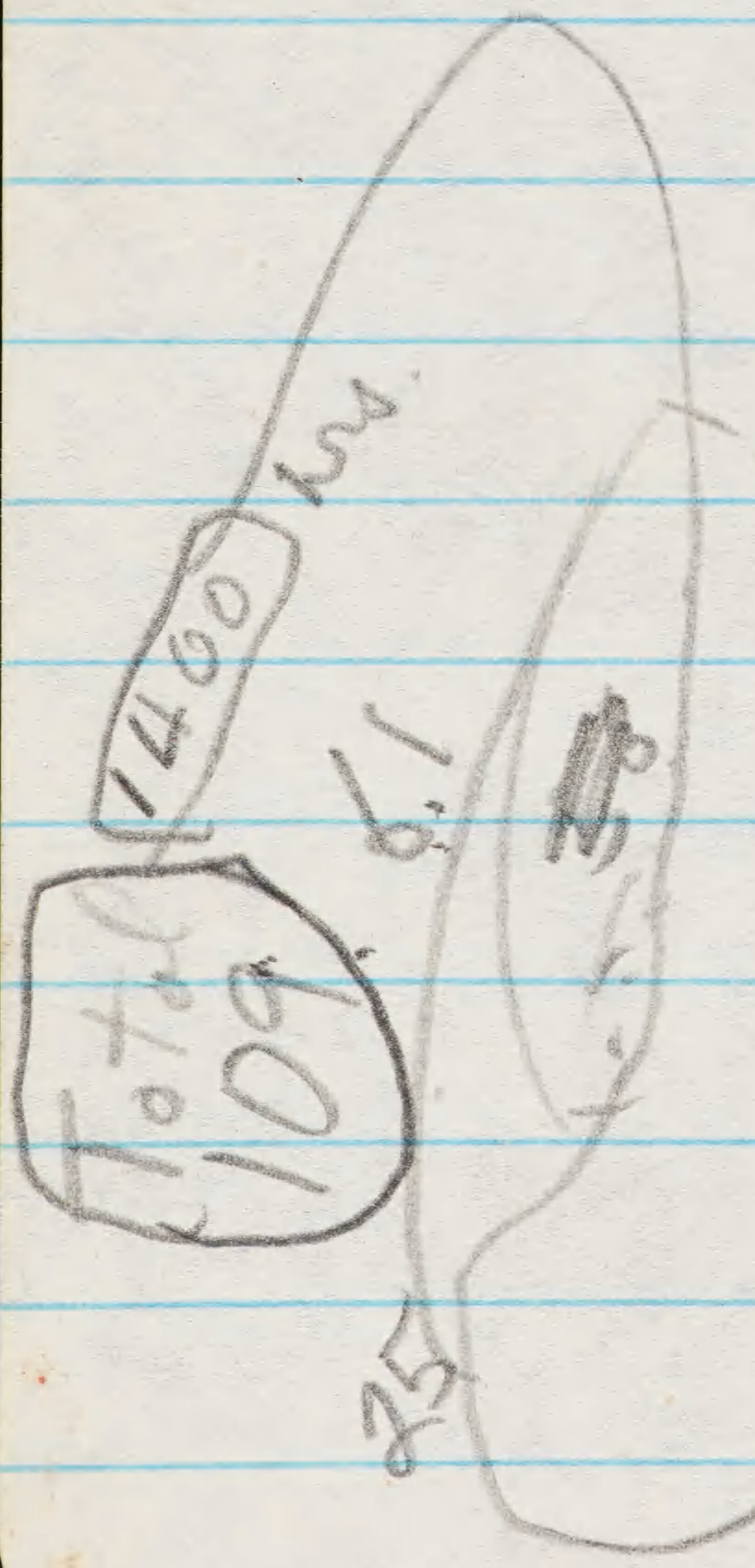
~~1~~



~~40~~

208

~~9~~



1400 m.

Total 1109

61

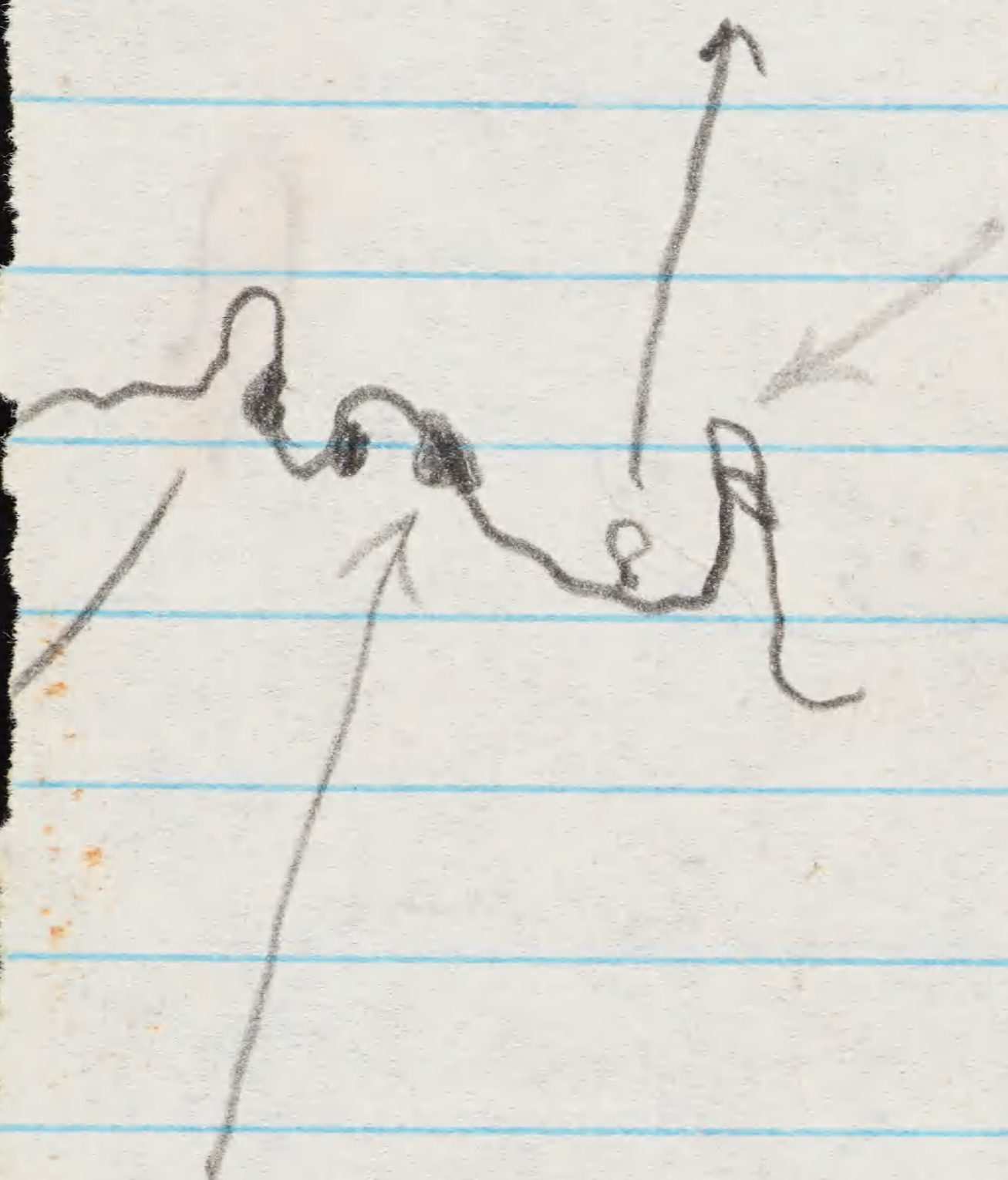
25

~~15~~

83 Nests

Ma Kapili Rock

Point



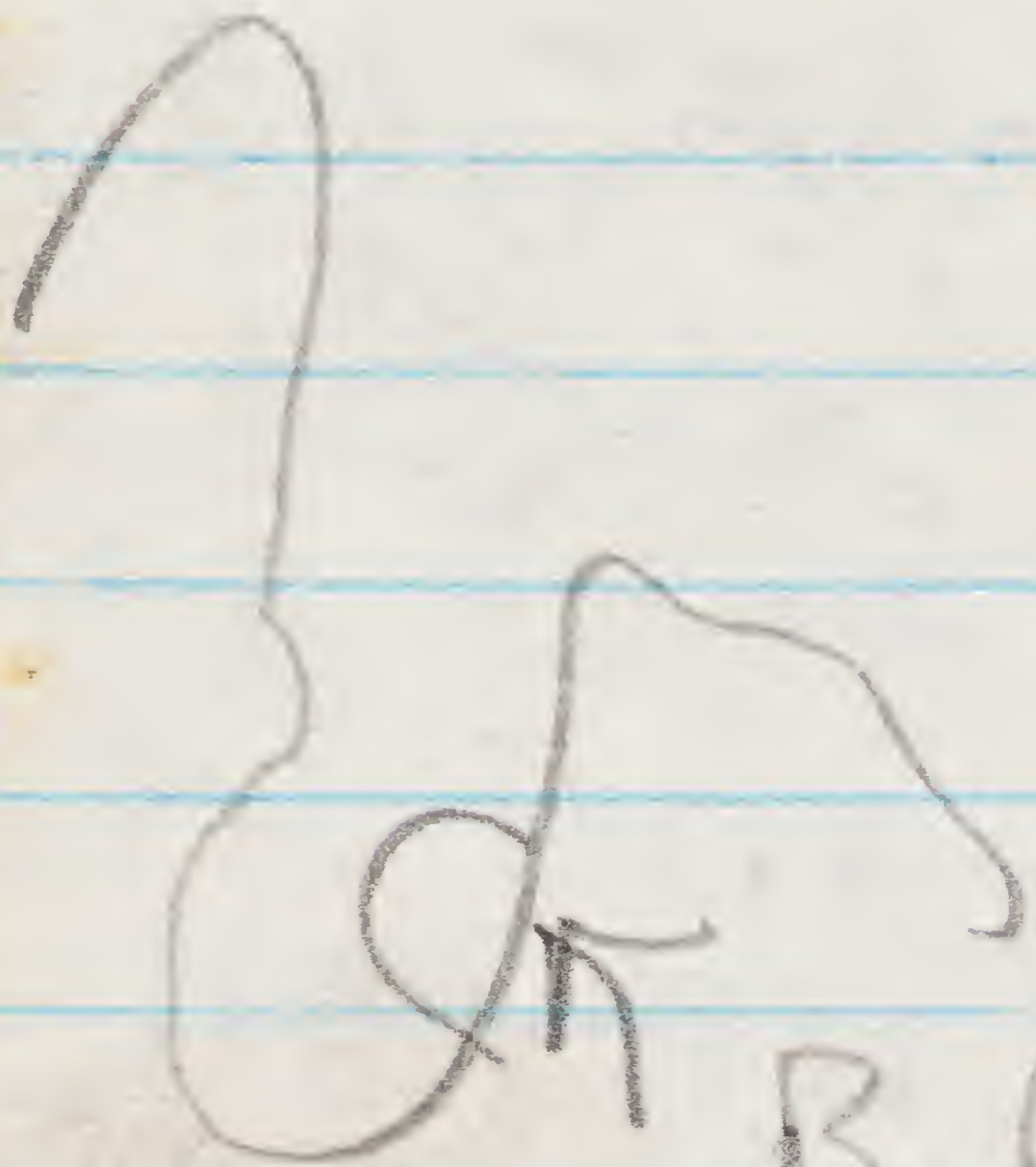
Newly Known

Booby nesting

4 FT Nest count

248

Wed 5 April

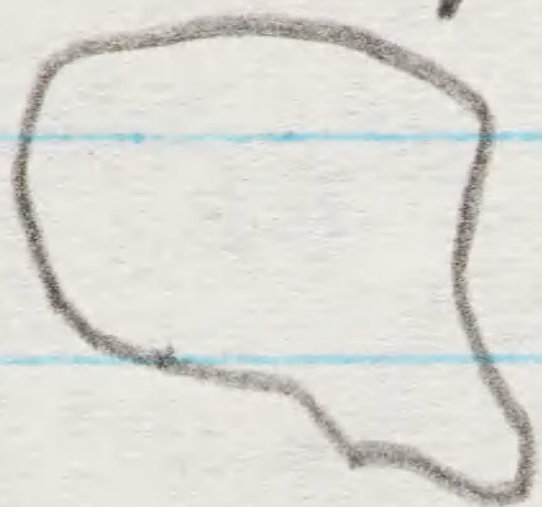


Booby counts

5:30 app. 1 hr/sunset

113 birds

Mohua Island



5 SAd G Frigates

1730

Wedge-tails
gliding about the island
some landing

Wed

wedge-tail Burrows active
but very little fresh digging
9 birds gliding off tip of
point at 17:30. Considerable fresh
droppings around old burrows

27 April 1967

Kilauea Pt., Kauai
Hoff

arrived at

departed Honolulu 1730 27 April Thursday

arrived Lihue 1800 " "

arrived at Kilanee Point 2130 hours "

departed - " " 0700

arrived at Waimea Canyon 1400

hours "

hours 28 April Friday

" 29 April Saturday

Thurs 26 April

arrived at lighthouse
~~on~~ early evening 2000 hours
calm weather prevailing
about the point.

Wedge-tails sitting around
lighthouse & a few in the
air - Set 15 rat traps

very low wind from
prevailing direction

Red-foot B

Numerous naked chicks
very young - too weak to
raise their heads; no
downy ones but all chicks seen
were able to chuck - but their
eyes closed estimate 1-3 days
since hatching *Lantana camara*
Sesuvium, ~~Chenopodium~~ is

flowering, several plant
community on upper cliffs

WTS

copulating pairs, many
singles now present in the
burrows - much digging
activity

probably 3-4 thousand birds
present on the point

Overcast night - little or no
rain

Friday 28 ^{Apr} ~~Feb~~

White-Tailed Tropicbird
in cave

Great Frigatebirds

one landed on
Mokuauia island
4 well dispersed
over the booby colony
no chasing noted

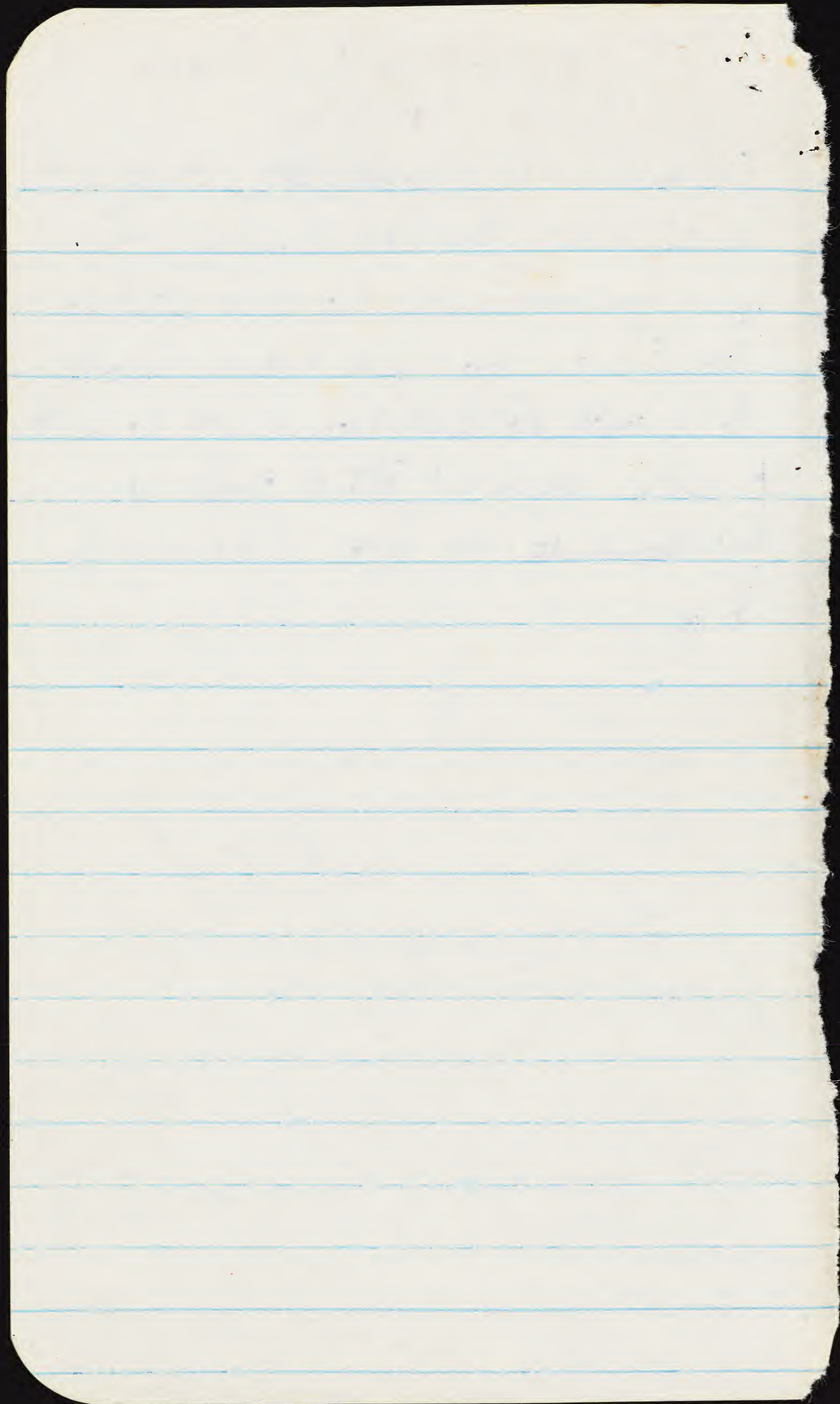
27 April 1967 Fitch
Kilauea Pt., Kauai

Arrived at Kilauea Pt. 9:30 P.M.

and met Bernie Young and
got permission to use Office
facilities to spin down blood.

Arrived at lighthouse at 10:00 P.M.

~ saw several RFB and 2
Wedgetails in air illuminated
by



Bands Received

Kilanea Point, 27 April 1967

1.) ~~503-76747503~~

767-47503 - 47600

2. ~~715~~

645-25519 - 600

1. The first part of the book is devoted to a general

discussion of the principles of the theory of

the function of the mind.

The second part of the book is devoted to a

discussion of the principles of the theory of

the function of the mind.

The third part of the book is devoted to a

discussion of the principles of the theory of

the function of the mind.

The fourth part of the book is devoted to a

discussion of the principles of the theory of

the function of the mind.

The fifth part of the book is devoted to a

discussion of the principles of the theory of

the function of the mind.

The sixth part of the book is devoted to a

discussion of the principles of the theory of

the function of the mind.

The seventh part of the book is devoted to a

discussion of the principles of the theory of

the function of the mind.

587-

<u>Sora Sample</u>	<u>Species</u>	<u>Sex</u>	<u>Band</u>
1 72	RFB	♀	
2 73	RFB	♂	
3 74	RFB	♀	
4 75	RFB	♂	
* 5 76	RFB	♂	
* 6 77	RFB	♂	
* 7 78	RFB	♀	
8 79	RFB	♀	
9 80	RFB	♂	
10 81	RFB	♀	
11 82	RFB	♀	
* 12 83	RFB	♂	
13 84	RFB	♀	
* 14 85	RFB	♂	
15 86	RFB	♂	
* 16 87	RFB	♀	
17 88	RFB	♀	
18 89	RFB	♀	
19 90	RFB	♀	

* banded 27 April 1967

<u>Color Phase</u>	<u>Nest Status</u>	<u>Band No.</u>
L	1e	✓ 587-90120
L	1 naked young	✓ ² 587-90105
L	1 naked yg.	✓ ³ 757-60852
L	1 egg	767-47502 no band
L	1 egg	X 767-47503
L	2 egg	X 767-47504
L	3 1 naked yg.	X 767-47505
L	4 1 naked yg.	X 767-47506
L	1e	✓ 587-90117
L	1e	✓ ⁵ 587-92837
L	1 egg	✓ ⁶ 757-60 ⁸⁴ 80
L	5 1 egg	X 767-47507
L	1 egg	✓ ⁷ 767-50353
L	6 1 egg	X 767-47508
L	1 small naked yg.	✓ ⁸ 767-50075
L	7 1 egg	X 767-47509
L	1 egg	✓ ⁹ 757-89250 not banded
L	1 naked yg.	767-47510
L	1 egg	✓ ¹⁰ 587-92838

<u>Sera Sample</u>	<u>Species</u>	<u>Sex</u>
20 91	RFB	♂

21 92	Wedgetail	?
-------	-----------	---

22 93	Wedgetail	♂
-------	-----------	---

23 94	"	?
-------	---	---

orange paint
Remains

24 95	"	?
-------	---	---

25 96	"	?
-------	---	---

26 97	"	?
-------	---	---

27 98	"	?
-------	---	---

28 99	"	?
-------	---	---

* 29 100	Wedgetail	
----------	-----------	--

* 30 101	"	
----------	---	--

* 31 102	"	
----------	---	--

32 103	"	
--------	---	--

33 104		
--------	--	--

* 34 105		
----------	--	--

* 35 106		
----------	--	--

* 36 107		
----------	--	--

<u>Color Phase</u>	<u>Nest Status</u>	<u>Band No.</u>
L	legs	not banded 767 47511

L in front of burrow 645-00361 ✓

L " " ✓ 635 26134

L " " ✓ 635 26137

M " " ✓ 645-00367

L in burrow ✓ 645-16232 ✓

M " " ✓ 524-94652
~~94562~~

M. in burrow ✓ 544-50522

L ✓ 625-30690

L in burrow * 645-25519 1

Int edge burrow/pair 20 2

L digging / single 21 3

Darb burrow single 1 615-05033 9
1 635-26148 10

L outside / pair ✓ 61506407 "

L " " 22 4

L burrow digg / single 23 5

L burrow / single 24 6

Dep

37 108 WTS

7

Group

38 109

↑

↑

part

39 110

↑

↑

↑

40 111

L ✓
L ✓ in herroffair

615-05037 ✓ 12

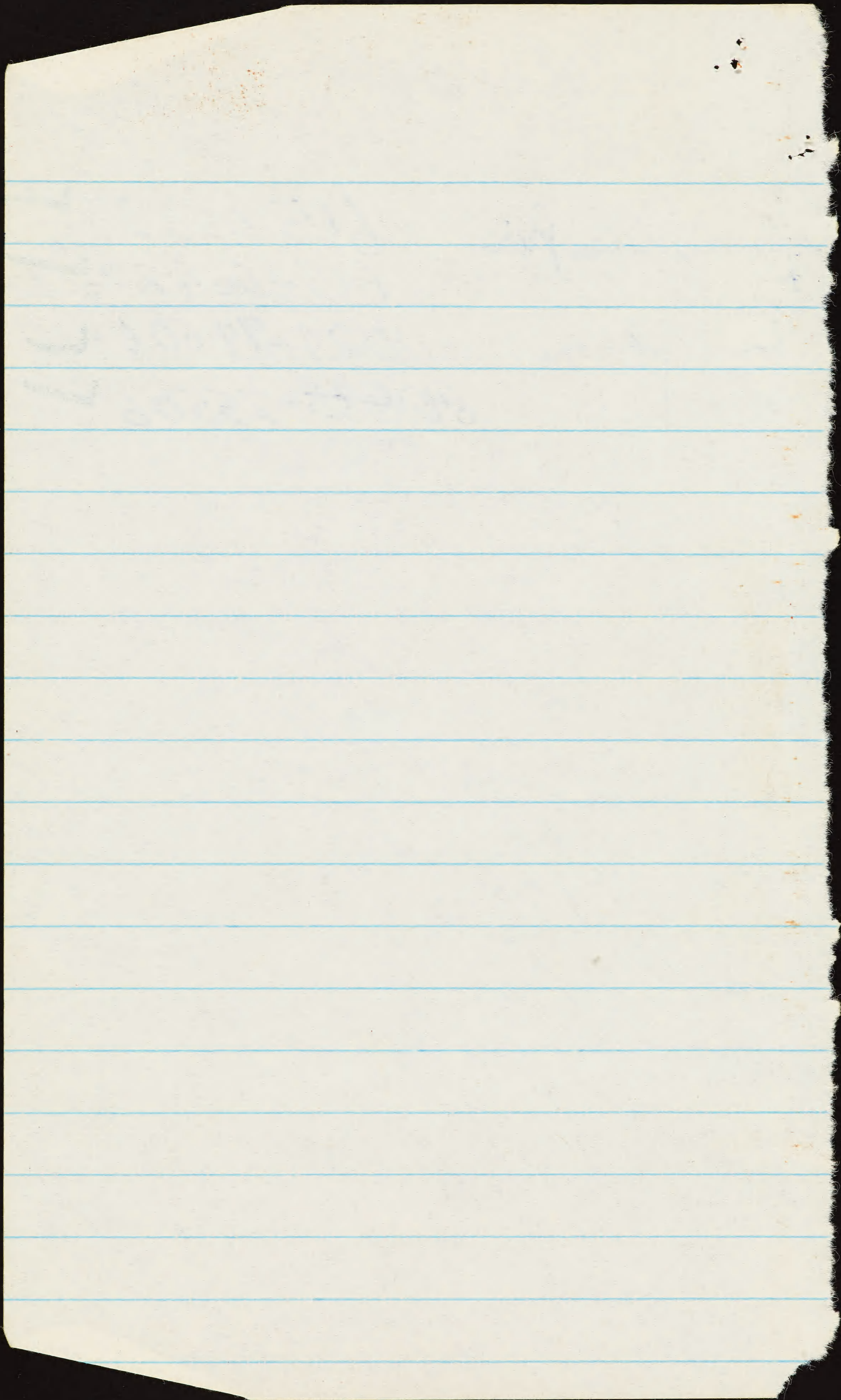
615-06422 ✓ 13

L ✓ | herrow

524-94606 ✓ 14

L ✓ | -

645-~~625~~-25506 ✓ 15



645-

30 April

Wedgetails

Makapele Cliffs

24 April 1967

No.

Sex

Molt

1	?	new
2	?	"
3	?	"
4	?	new
5	?	new
6	?	high voice fat head new
7	?	low voice thin head new
8	?	new
9	{	fat head longer beak new
10	{	thin head shorter beak new
11	?	fat head longer beak new
12	?	thin head shorter beak new
13	?	new
14	?	new

♀ = old
 ♀ = fresh
 S = single
 D = double

<u>Color Phase</u>	<u>Nesting Status</u>	<u>Band No.</u>
L	S, O	645-25525
L	{ D, O	645-25526
L	{ D, O	645-25527
Intermediate	{ D , O	645-25528
L	{ D, O	645-25529
L	{ D, O	645-25530
L	{ D, D	645-25531
L	S, O	645-25532
L	S, O	645-25533
L	S, O	645-25534
L	S, O	645-25535
L	S, O	645-25536
L	D , O	645-25537
L	D O	645-25538

1 dead Wedgetail 2

Kilauea Point, Kauai 28 April 1967

Moku Aea - 1:30 P.M. -

4 G. Frigates Observed landing on

1:35 influx of frigates -

1 subad

11
2000

2000 8 10 10 10 10

2000 8 10 10 10 10

2000 8 10 10 10 10

2000 8 10 10 10 10

2000 8 10 10 10 10

2000 8 10 10 10 10

2000 8 10 10 10 10

2000 8 10 10 10 10

2000 8 10 10 10 10

2000 8 10 10 10 10

2000 8 10 10 10 10

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2000 8 10 10 10 10

2000 8 10 10 10 10

2000 8 10 10 10 10

2000 8 10 10 10 10

2000 8 10 10 10 10

2000 8 10 10 10 10

2000 8 10 10 10 10

Makapuu Chiffs

Burrows 30 April 1967

<u>No.</u>	<u>Entrances</u>	<u>Status</u>	<u>No. of birds</u>	<u>D</u>
1	1	0	1	*
2	1	0	0	*
3	1	0	0	*
4	1	0	0	
5	1	0	0	
6	1	0	0	
7	1	0	0	*
8	2	0	0	*
9	1	0	0	*
10	1	0	0	*
11	1	0	1	.
12	1	0	0	*
13	1	0	2	
14	1	0	0	
15	1	0	0	
16	1	0	0	
17	1	0	2	
18	1	0	2	
19	1	0	0	

Entrances Status No. birds D

20

21

22

23

24

22

1. The first part of the paper is a
description of the general character
of the country. It is a very fertile
land, and the soil is very rich.
The climate is very warm, and the
people are very happy and contented.

2. The second part of the paper is a
description of the people. They are
very kind and friendly, and they
are very intelligent. They are very
industrious, and they are very
careful of their property.


3. The third part of the paper is a
description of the government. It is a
very good government, and the
people are very satisfied with it.
The government is very wise, and
it is very just.

4. The fourth part of the paper is a
description of the religion. It is a
very good religion, and the people
are very devoted to it. The religion
is very pure, and it is very
simple.

176

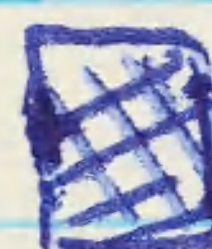




43 on nests
11 roosting
Santana camera
Pigweed + Scaevola
(flowering)

 = 176 RFB

including:
11 Adults roosting
2 subadults
163 of nests



 = 17 RFB
including

4 subadults
3  sitting near
mates
 on nests

Representative sample:

5 Adults roosting
5 nesting

~~1 egg~~
~~1 egg~~
~~1 egg~~
~~1 naked chick~~
~~1 naked chick~~
~~1 naked chick~~

Recaptures

757-60854 ♀ on egg

RFB nest count

egg	chick	bare
5, 1, 1, 1, 1, 1, 1, 1	1	1, 1
3, 4, 1	3, 1, 1, 1, 1	
(20)	(8)	(2)

totals for colony on Mokapele
cliffs:

303 RFB including:

- ① 211 on nests:
- ② 27 Adults roosting
- ③ 6 subadults roosting
- ④ 3 individuals sitting
within 1 ft. of mates (on
nests)

My dear Mr. [unclear]

I have just received your letter of the 12th inst.

and am glad to hear that you are well.

I am very busy at present but will write again soon.

Yours very truly,

[unclear]

[unclear]

[unclear]

[unclear]

KAUAI

18 June 1967

Hoff and Burkhalter

SPECIES

E/BP | incubation →
Status | ¹/₂ ³/₄ | Color Phase

1. WT Shear

egg - 1 Lt.

2 113 "

" - 1 "

3 114 "

" - 1 "

4 115 "

" - 1 "

5 116 "

" - 1 "

6 117 "

" - 1 "

7 118

~~no egg~~ ~~patching~~ "

8 119

no egg - 1 "

9 120

egg - 1 "

10 121

no patch "

11 122

egg - 1 "

12 123

egg - 1 "

13 124

egg - 1 "

14 125

no patch "

15 126

bare patch "

16 127

egg - 1 "

17 128

egg - 1 "

18 129

egg - 1 "

19 130

no patch "

20 131

" "

Sunday 18 June - light breeze
few clouds
full moon

~~Molt~~
new

Burrow

Band #

✓ 615-05016

S

P₁

P₂

S

✓ 625-32263

S

✓ 625-32262

S

✓ 64525503

S

✓ 635-26102

S

✓ 615-05037

S

✓ 615-06315/635-26174

outside

S

S

S

✓ 645-25505

outside

✓ 615-07034/26127
635-

S

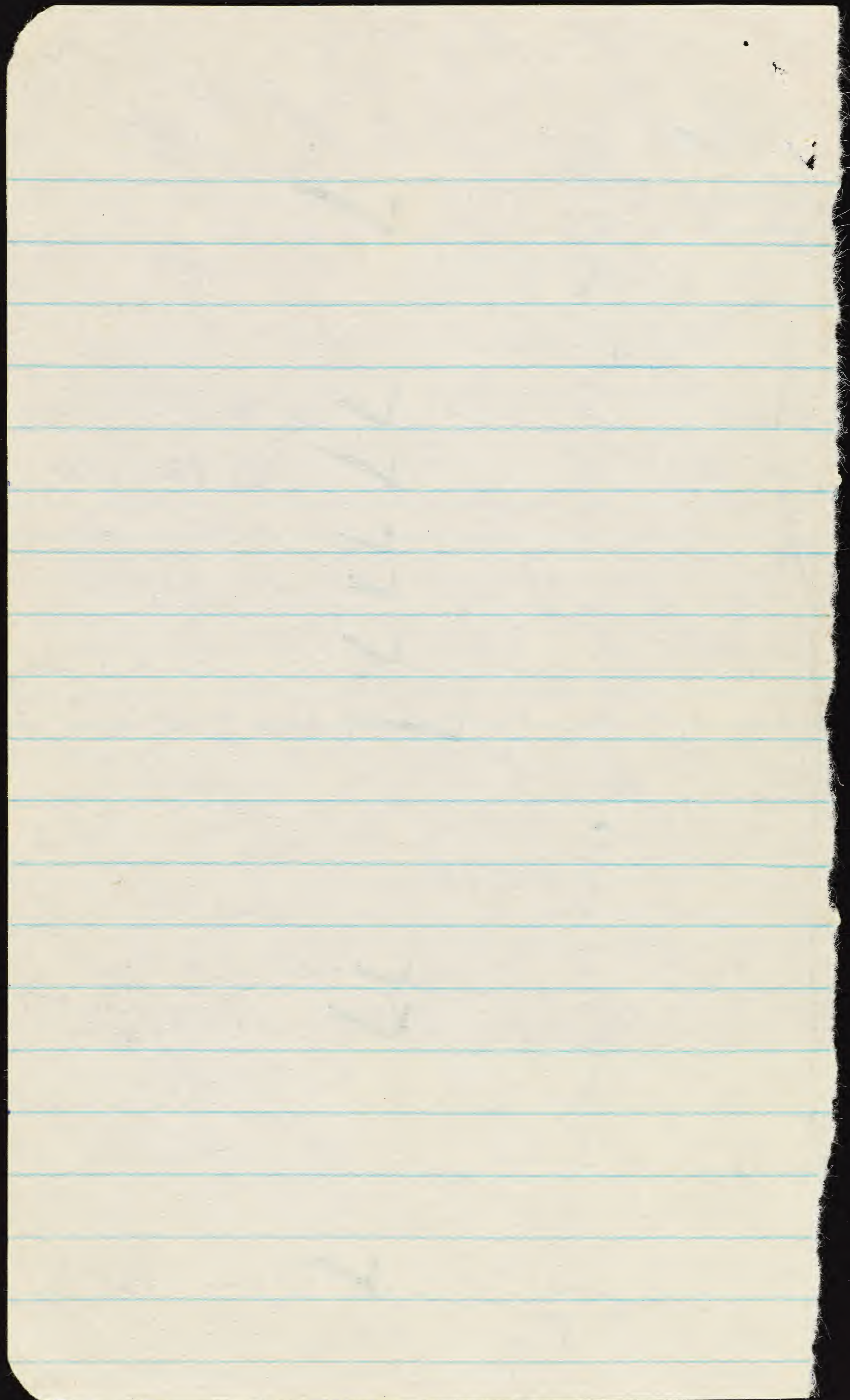
S

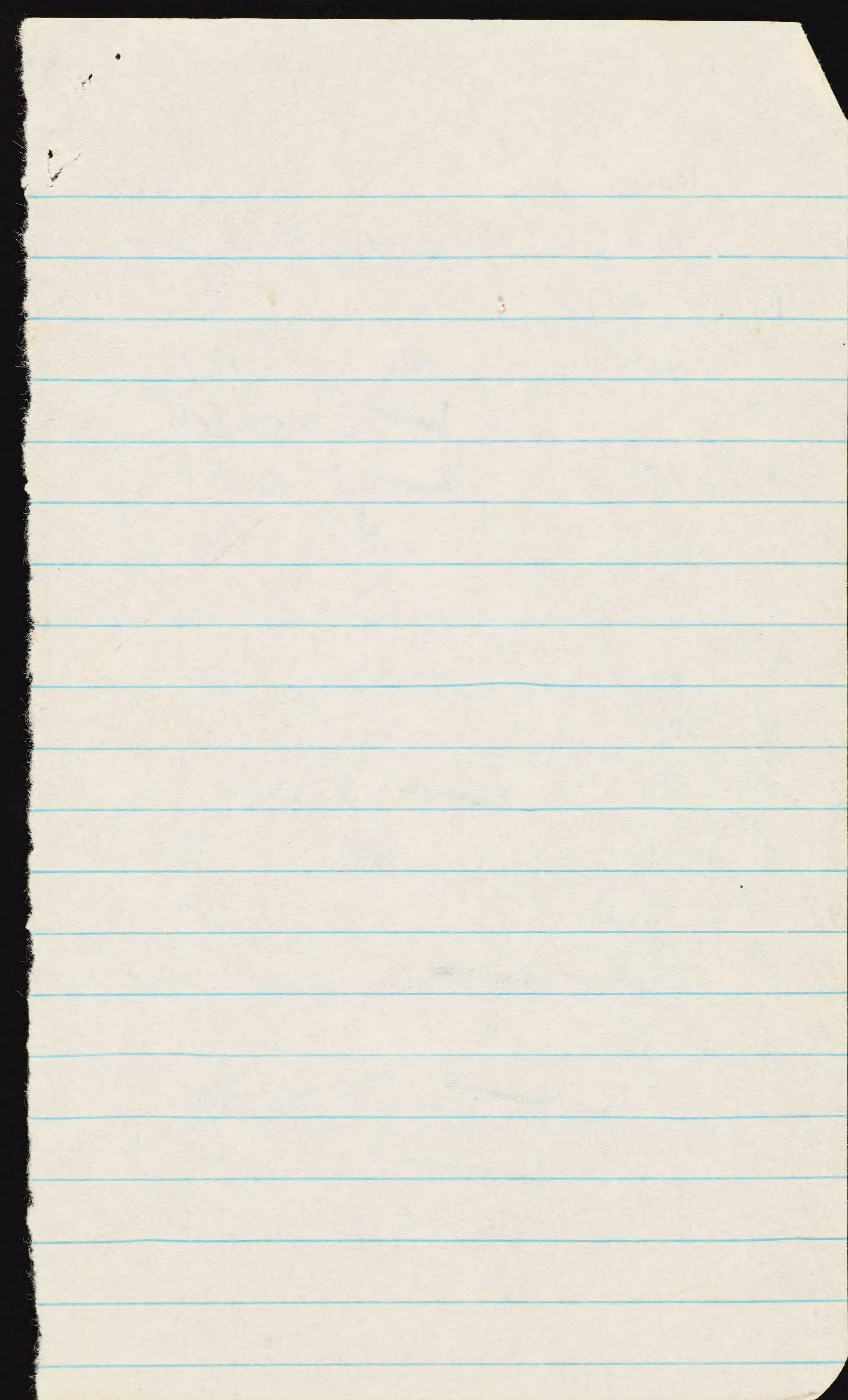
S

S

✓ 615-15880 ✓

P₁
P₂





RF Booby

Status

Band no.

21	♂ w/MDC	NB	767-47510
22	♀? w/MDC	NB	11
23	♂? roost	NB	12
24	♂ "	✓	587-84985
25	♀ w/MDC	✓	757-61432
26	♀ roost	NB	13
27	♂ "	NB	14
28	♀? "	NB	15
29	♂ w/SDC	NB	16
30	♀ w/LDC	✓	587-92847
31	♂ roost	NB	18
32	♂ w/LDC	NB	19
33	♀ w/LDC	✓	587-90101
34	♂ w/E	NB	20
35	♀ /SDC	✓	587-80311
36	♂ /SDC	✓	587-90109
37	♀ /e	NB	21
38	♂ /SDC	NB	22
39	♂ /LDC	NB	23
40	♀ /om SDC	NB	24

~~2~~

Phase

Lt. 132

Lt. 133

Lt 134

Lt 135

ll 136

ll 137

ll 138

ll 139

ll 140

ll 141

ll 142

ll 143

ll 144

ll 145

ll 146

ll 147

ll 148

ll 149

150

151

RT Booby New Bands

Series issued - 767-47510 to 60.

767-47510 - ♂ w/MDC

11 ♀ w/SDC

12 ♀ roost

13 ♀ "

14 ♂ "

15 ♀ "

16 ~~♂~~ "

17 lost

18 ♂ roost

19 ♂ LDC

20 ♂ w/E

21

22

23

24

25

26

27

28

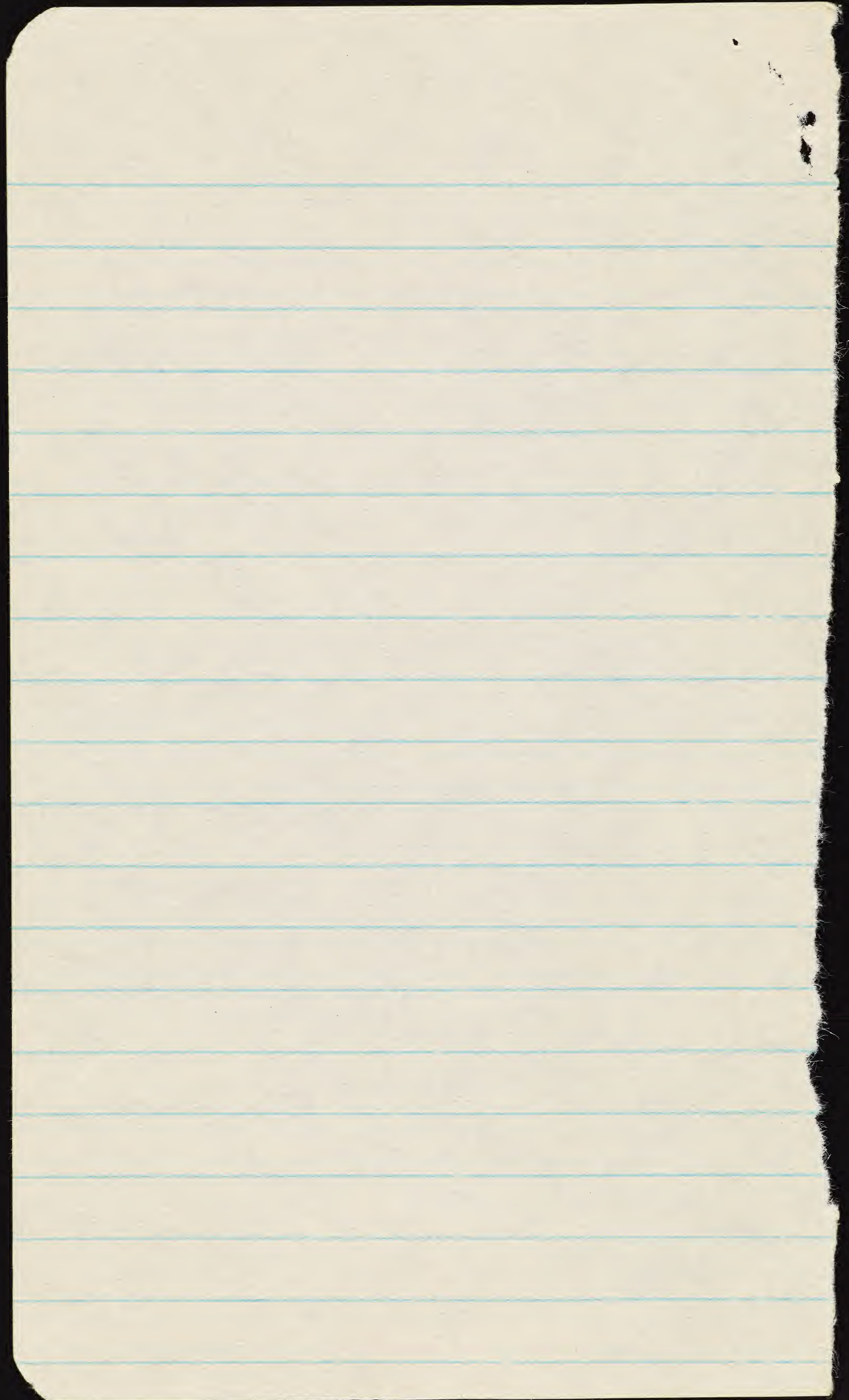
29

~~2~~

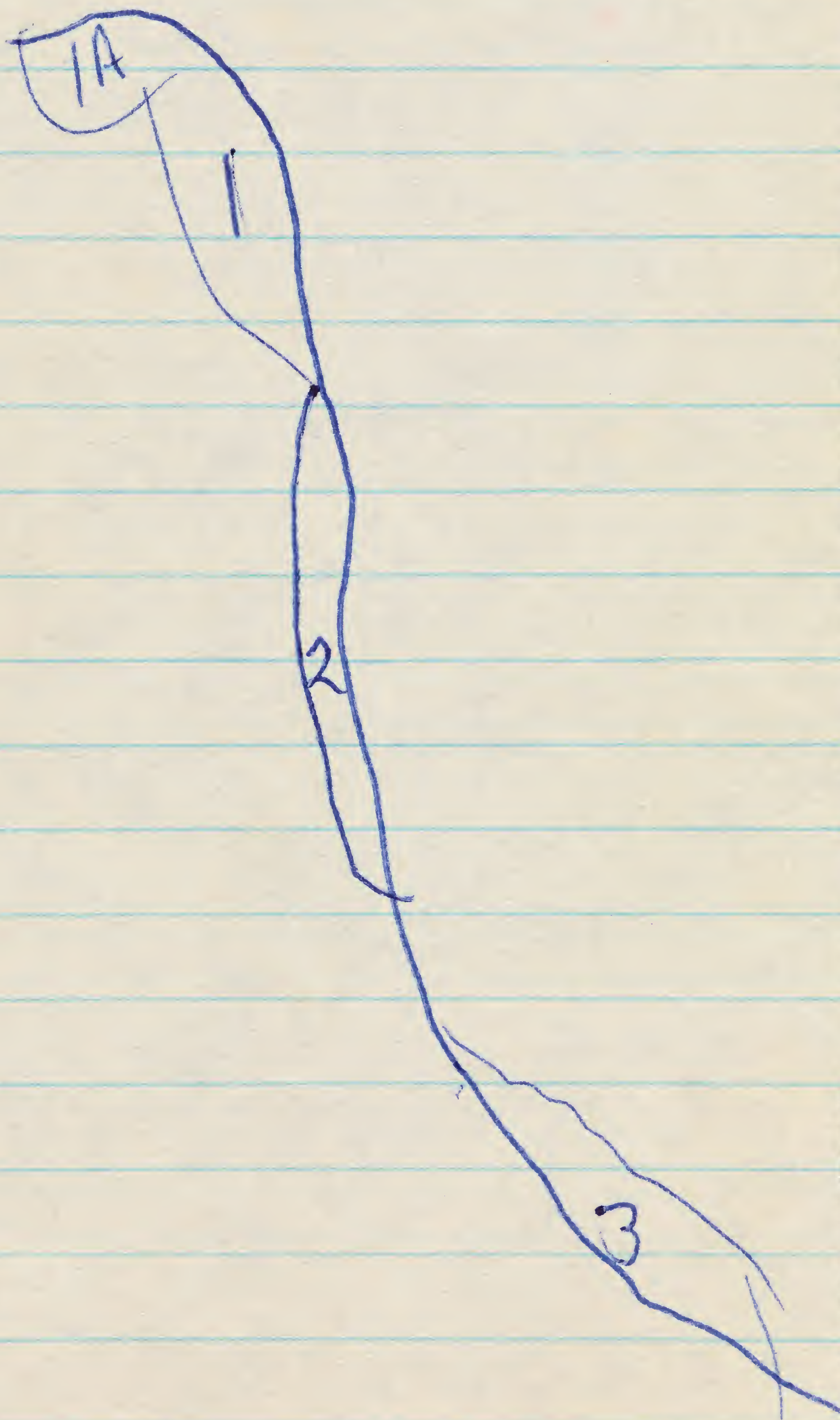
0

475 30

31



Kauai
Hoff and Burkhalter
18 June 1967



1600 to 1800

Area Adults/nest Yg. nest Roosting

3-3

cliff

in

Scarsda

(4)

2

|||||

|||||

|||||

(26)

|||||

|||

(13)

|||||

(6)

2-2
17

adult in air

(1)

bare nest

(1)

2 Rock doves feeding

Area #3 - birds roosting in
Cassuarina

Area #2 - birds roosting in Figwood

G. Frigates

3 in air above boobies
near Makapuli cliffs

Area #1

ads/rest

~~||||~~

~~||||~~ ~~||||~~

~~||||~~ ~~||||~~

~~||||~~

(25)

sub ad

(1)

LDC

y/rest

~~||||~~ ~~||||~~

~~||||~~ ~~||||~~

~~||||~~ ~~||||~~

~~||||~~ ~~||||~~

||||

(34)

base

(1)

roost ad

~~||||~~

~~||||~~ ~~||||~~

~~||||~~ ~~||||~~

(19)

air

(3 ads)

imm

||||

(3)

Area #1A

~~||||~~

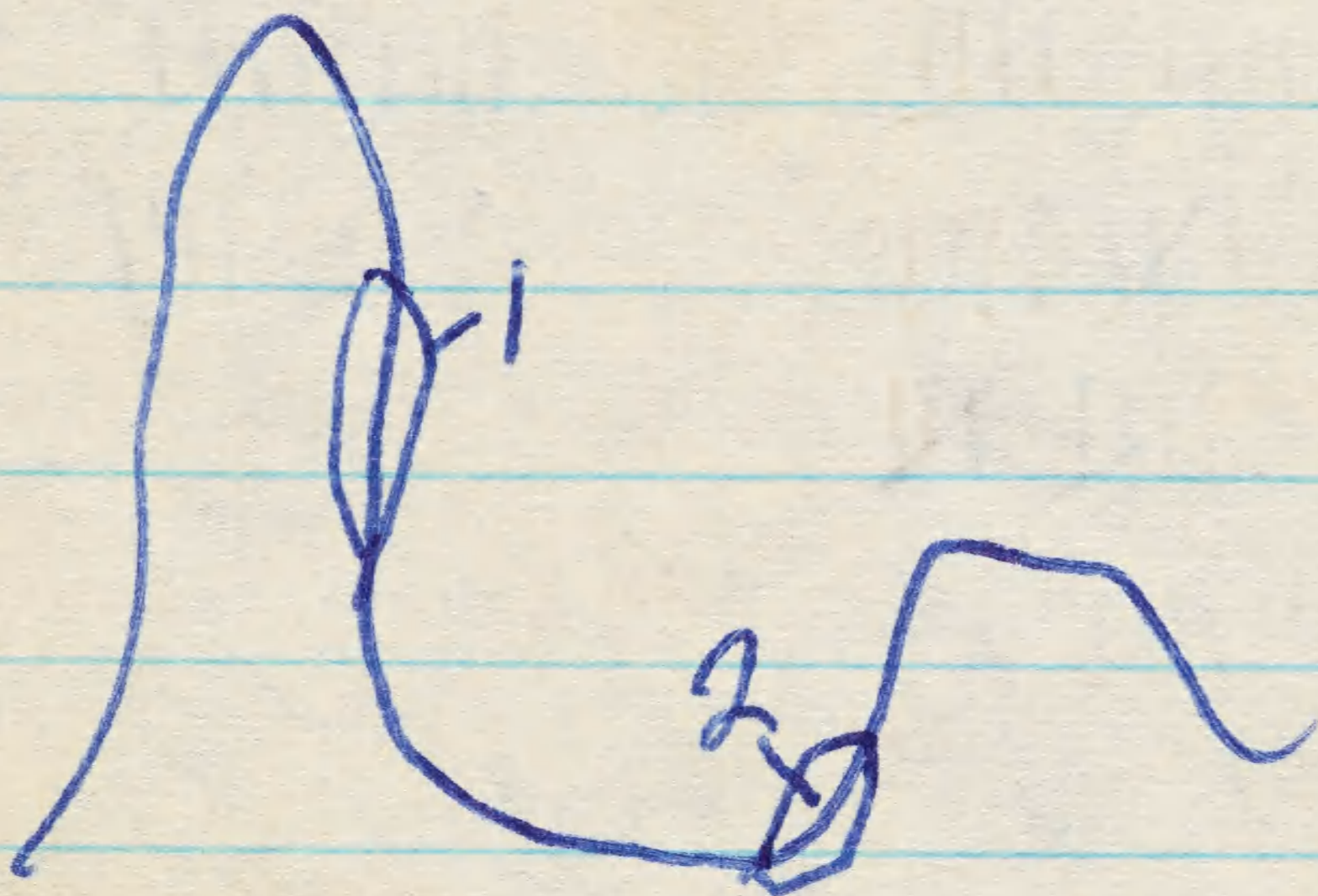
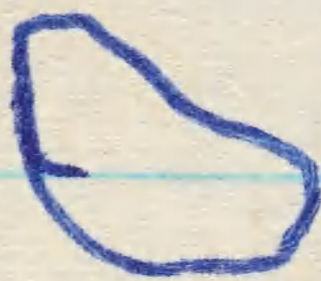
(5)

in Sear.

||||

(5)

Hilawa Point



Area 1

Ad/nest

Ad/nest

other

16 (4 in Swards)



Area 2	Ad/mst	Xg/mst	Ad/mst	other
 (24)	 1 (21)	 (4)	^{sub} (2)	

Makvagea

1800

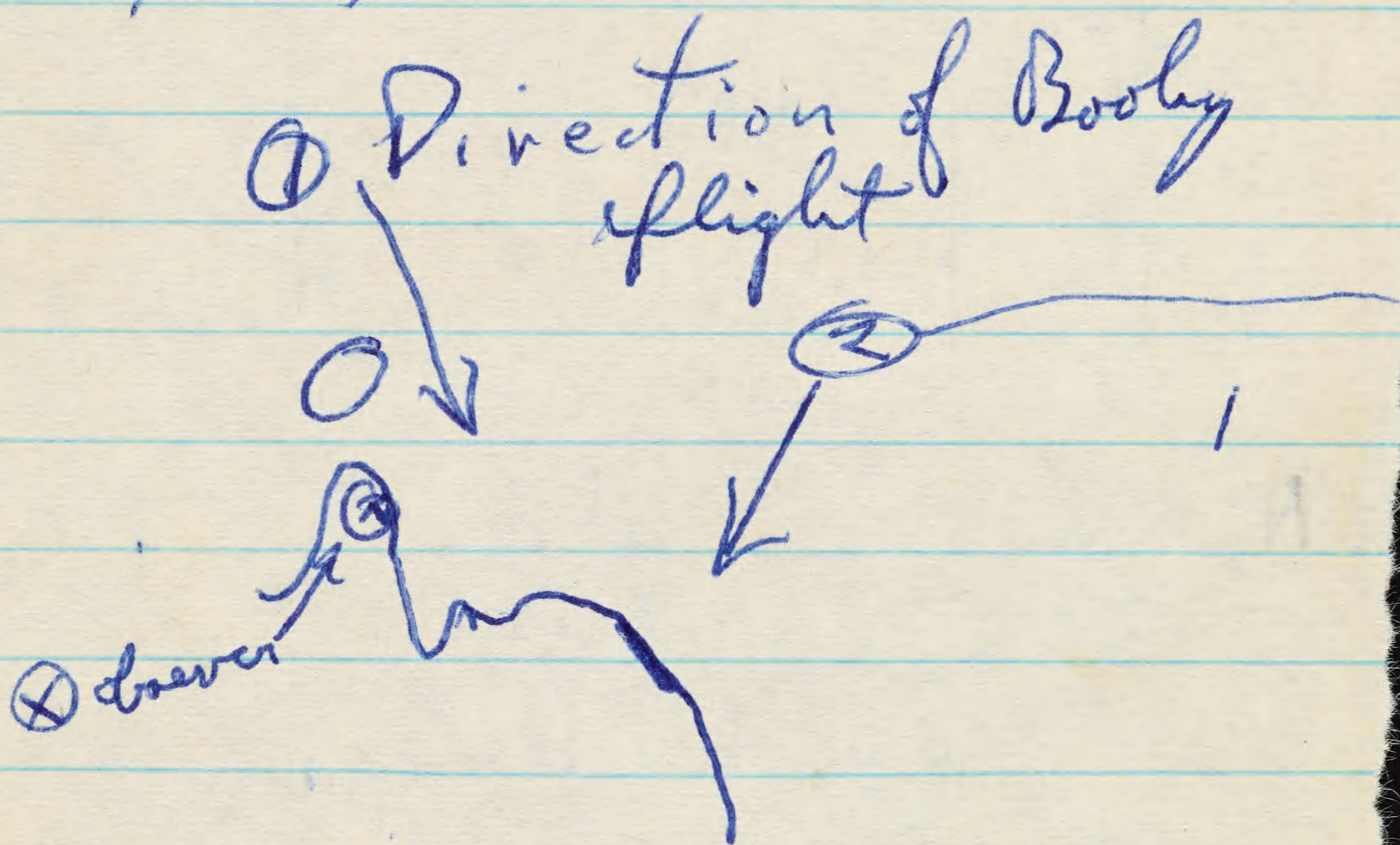
Frigate count - 13

3 w/ white heads

3 in air

Frigate pursuit of Boobies
per 1 hour
1730 - 1830

III



immature #
② = sub-adults

4 brown Booby on island - 2000
5 " " left - "

Mothvoeae - Kilauea Pt.

Sunday

Frigate - RFB Obs. Starting 1900

o = not success
+ = success

returning

RFB

~~7~~
~~7~~
~~7~~
~~6~~

Following
Frigate

1

~~Frig~~ Chase Ratio
Frigate Frig

① 2-1-0

② 2-0

③ 2-0

④ 3-2-0

⑤ 3-2-0

⑥ 3-2-0

⑦ 3-1-0

⑧ 1-0

⑨ 1-0 BB

27 on island

6 frig in air

8 407

32 Rest

① 7,5
② 1,2
9,7 1,3,2
6,2 5,3
1,1 5,5
① ① 1
3,5
1,4
3,2
6+①
2,3

① ②

10,4

7

PB ①

4,5,2,2

2,1

over page

15-Sweet WT Shear soaring $\frac{1}{2}$ before

RFB

① ②

① BB

Frig
Chases

Frig

3			
3, 9	X		1
3, 2			2
4, 3			2

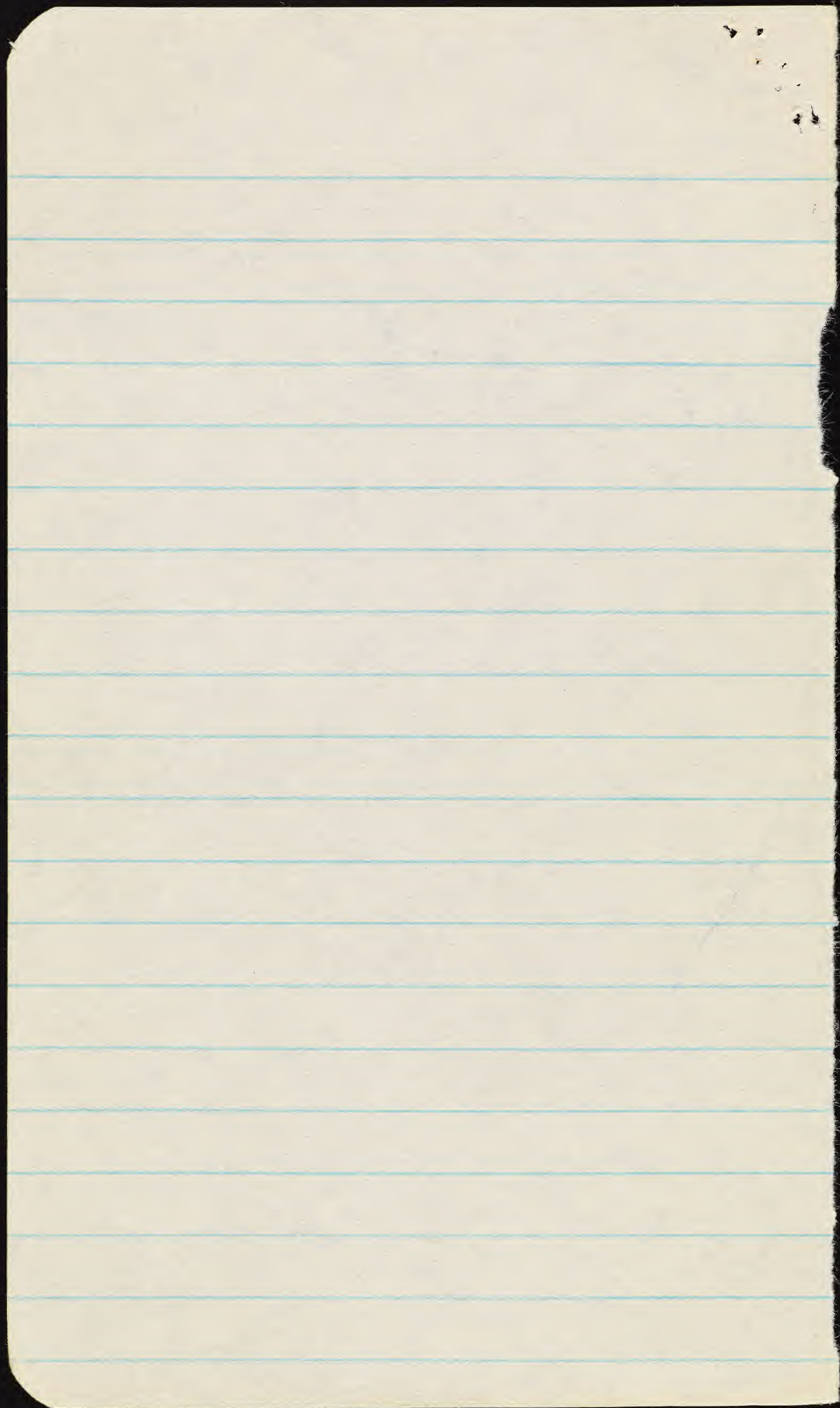
4

10 above 1s
41 on

sunset

2

3 birds colony — sunset
island



J.H. Fitch

Journal

Lihue Airport, Kauai 14 July 1967

Arrived at 11:15 A.M.* and
rented a 1966 Rambler sedan
from Tony's Rental for \$8 per
day and 10 cents per mile.
^{Mileage approx:}

Saw several Indian Mynah
birds on runway. ~~Weather~~
Temperature 80°, sky intermittent
overcast with cumulus
clouds. Standing water in
ditches indicates a recent
rain. Drove to Wailua Falls
and saw a number of Japanese
White-eyed, 1 dove in cane
fields on the way. At the
Falls, observed 1 WTTB circling
the Falls in the air and flew
off to the East - several
shrikes observed in leaves
* saw 1 WTTB from plane near cliffs E of Lihue Airport

Saw Heiau of Poliahu
built by Menehunes
Holo Holu ku Heiau

Kalalaou lookout

5 WTTB

4 Red birds - Tanager-like

8 small olive green

J.H. Fitch

2

Journal

14 July 1967 (continued) and ground
litter; most were hatchlings
 $1\frac{1}{2}$ to 2 inches long. Heavy rain
began at 11:55 A.M. WTTB
still flying around - Drove down
to Highway 56 - sunny here
Drove to Wailua River State
Park - Poliahu Area to an overlook -
5 WTTB were seen ~~in~~ flying
in the vicinity of the high
cliffs on either side of the
overlook. Two cardinals,
both ♂♂, were seen at
the overlook - Poliahu
Falls could be seen from
overlook - near the Heiau
of Poliahu several small
warbler-like birds were
flushed from a small Casuarina
tree.

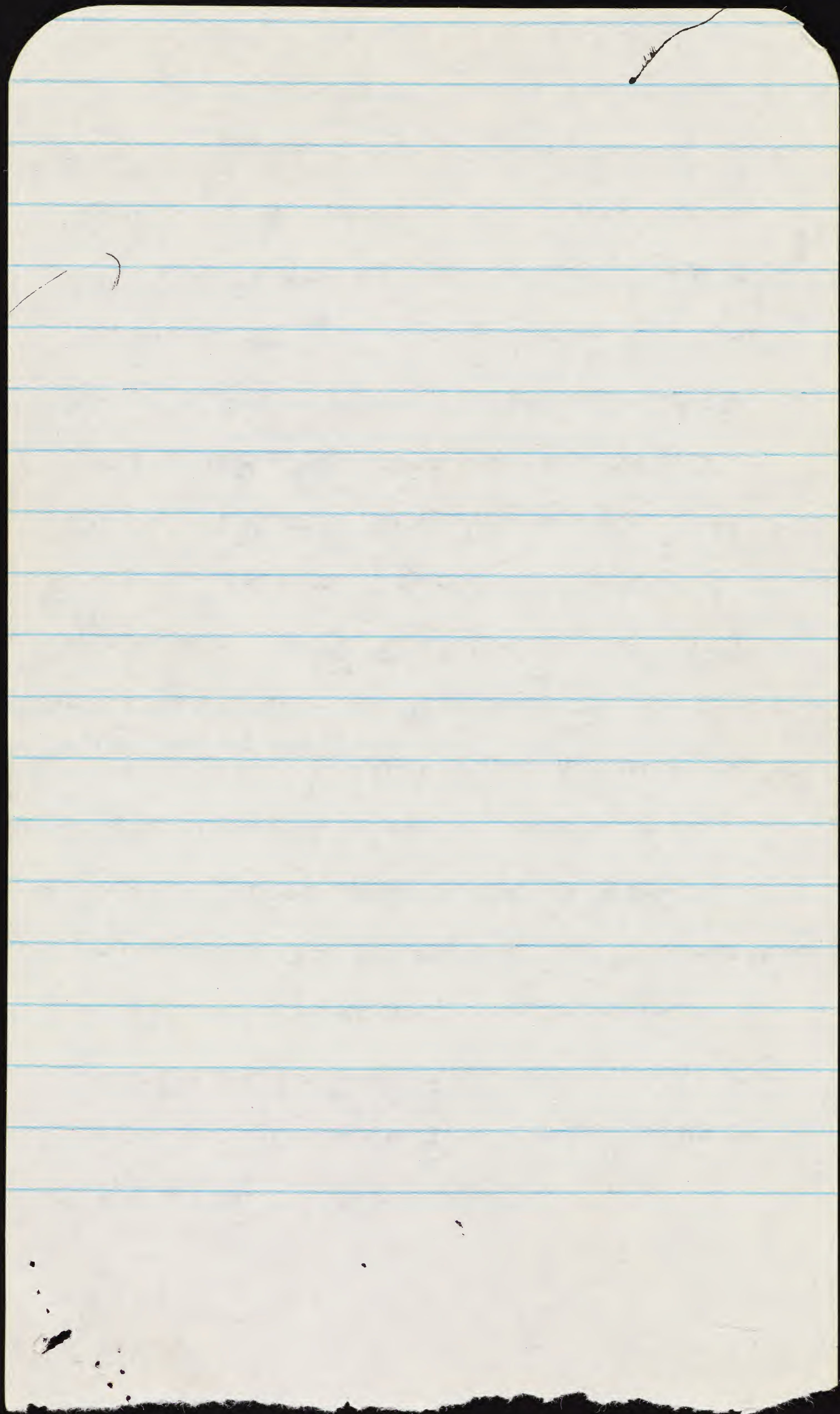
16
19
12 15

JH Fitch
3

14 July 1967 (continued)

Drove to Kilanua Pt. and talked with Dowell First Class in charge - signed a releaser and made arrangements to come in tomorrow night. Currently are 23 dogs at station although only five are adults. Visual count was made at 3:05 P.M. of Boobies in Colony B - a total of 28 sighted: of those, 11 were large Downy chicks, 2 were adults brooding and 11 were adults sitting on nests.

At 3:15 P.M. a count was made off Island: a total of 43 Frigates including: 10 ♀♀, 10 ♂♂, 14 immatures and one RFB (adult). Then hiked to Nokapele Cliffs and banded, molted, phased Wedgetails



JH Fitch

4

14 July 1967 (continued)

than 1 bird
Of those, none of the burrows had more
in addition to egg measurements,

I then made a binocular survey
of Colony C (RFB) on Mokapele Cliffs

Mokapele Cliffs: total of —

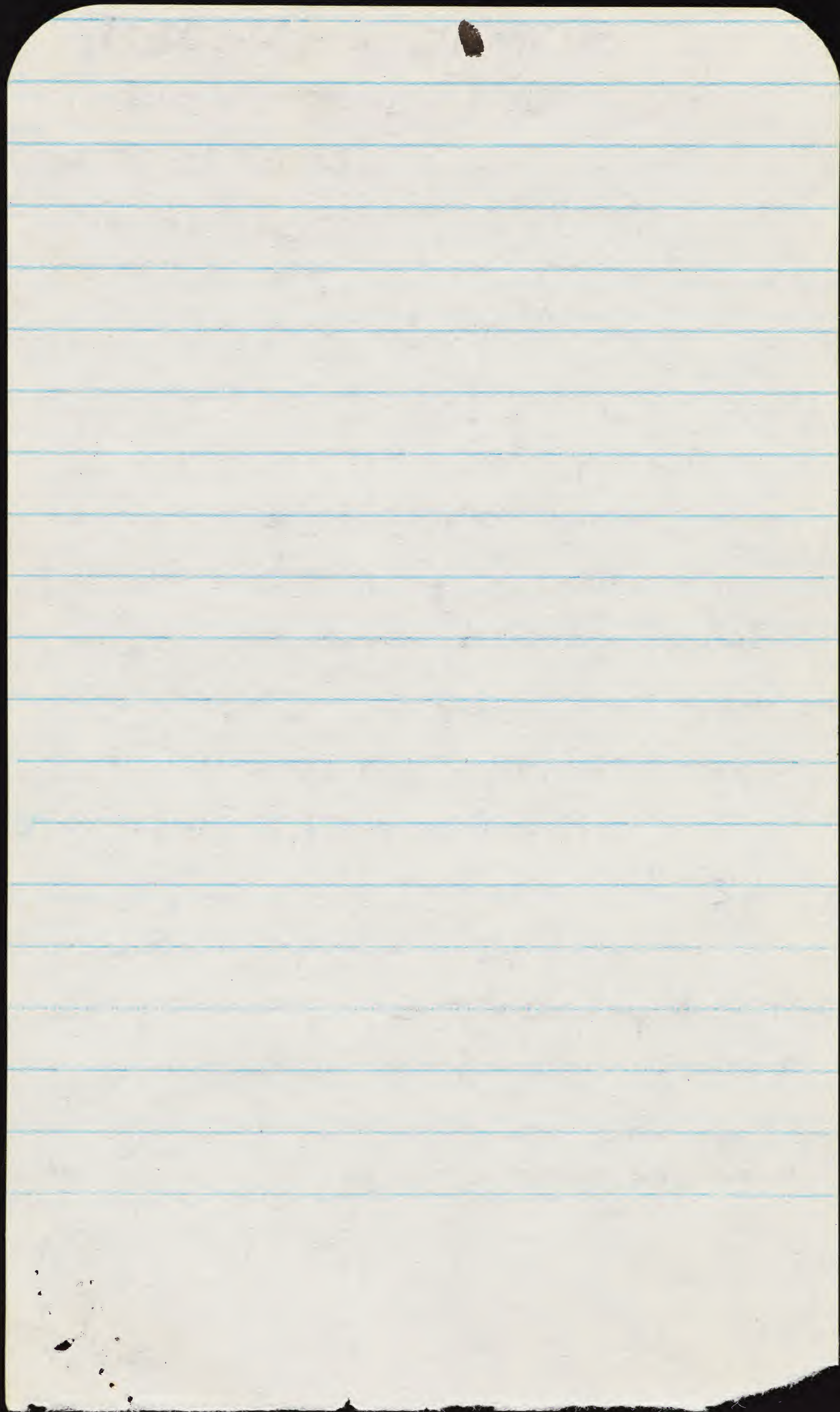
RFB (36 for end part Colony C = 29
nestlings, 7 adults) at 4:10 P.M.

Then climbed down Mokapele Cliffs
and banded 20 RFB large downy
chicks. The ^{entire} ~~other~~ part of Colony
C was composed of 5 small naked
chicks, 11 small downy chicks and
28 large downy chicks, 6 early
immatures and 7 adults. (Time: 5:30)

Then climbed up Cliffs and
began a watch of Colony:
6:00 P.M. : Section contained 25 yg.
and 5 adults

6:30 P.M. → 7 adults

7:00 P.M. → 20 adults



J.H. Fitch

5

14 July 1967 (continued) 10 of 13

coming in alighted near chicks. 7 of 10 fed chicks.

During the period from 6:30 - 7:00 a total of 7

Frigate chases were observed:

<u>Chase #</u>	<u>No. Frig.</u>	<u>No Boobies</u>	<u>Success</u>
1	2 at beginning	1	+
2	1	1	-
3	3 at begin.	1	+
4	1	1	-
5	2 at beg.	1	+
6	1	1	+
7	1	1	+

At 7:00 P.M., began raining -
drove to Daisy Queen for
dinner and on the Waimea
Canyon - camped at
campground at
approx. 3600 ft. weather

Fl. 328 Aloha

22 minutes.

Take off 1250

16 July 1967

~~Outer~~ Cast ~ rain visibility

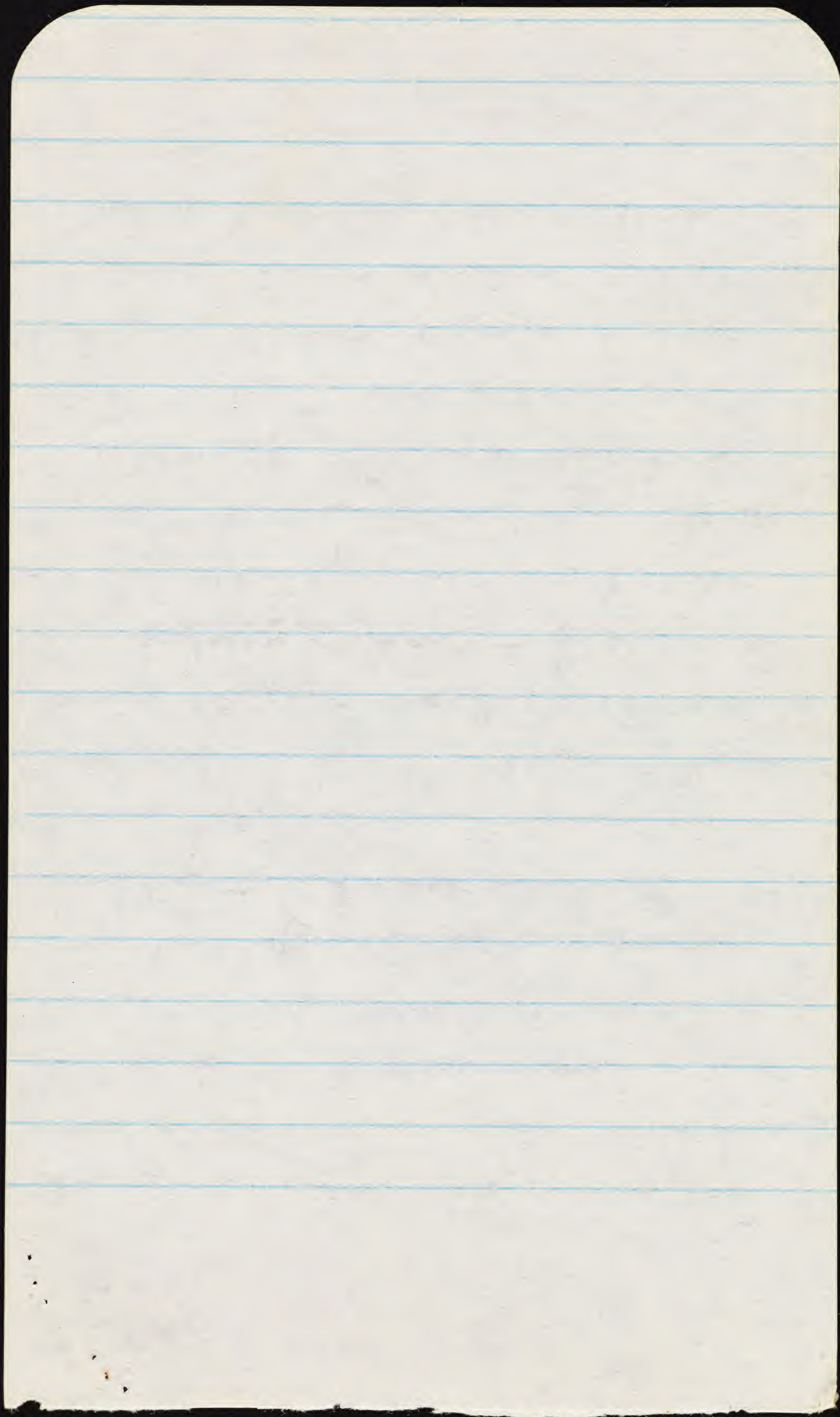
$\frac{1}{4}$ mile

J. H. Fitch
6

14 July 1967 (continued) was cool and clay intermittently overcast. Set out 15 Museum Specials and 10 rat traps baited with mixture of crackers and peanut butter - hit the sack at 11:15.

15 July 1967

Got up at 8:00 A.M. and checked snap traps - no luck. Drove to Kadaluu lookout - foggy and only glimpses of the Nepali coast were possible. - Saw 5 WTTB, 4 Red Tanger-like birds and 8 small olive green birds (Japanese White-eyes). Then drove to Wainea Canyon lookout and saw 11 WTTB



14 July 1967

Results: Niihau Pt, Kauai
Fitch

15 RFB bled

65 WTS bled

~~10~~ WTS banded

40 RFB chicks banded

10 RFB adults banded

5 RFB adults returned

19 WTS adults returned

RFB: Colonies A, B, C
checked
and counted

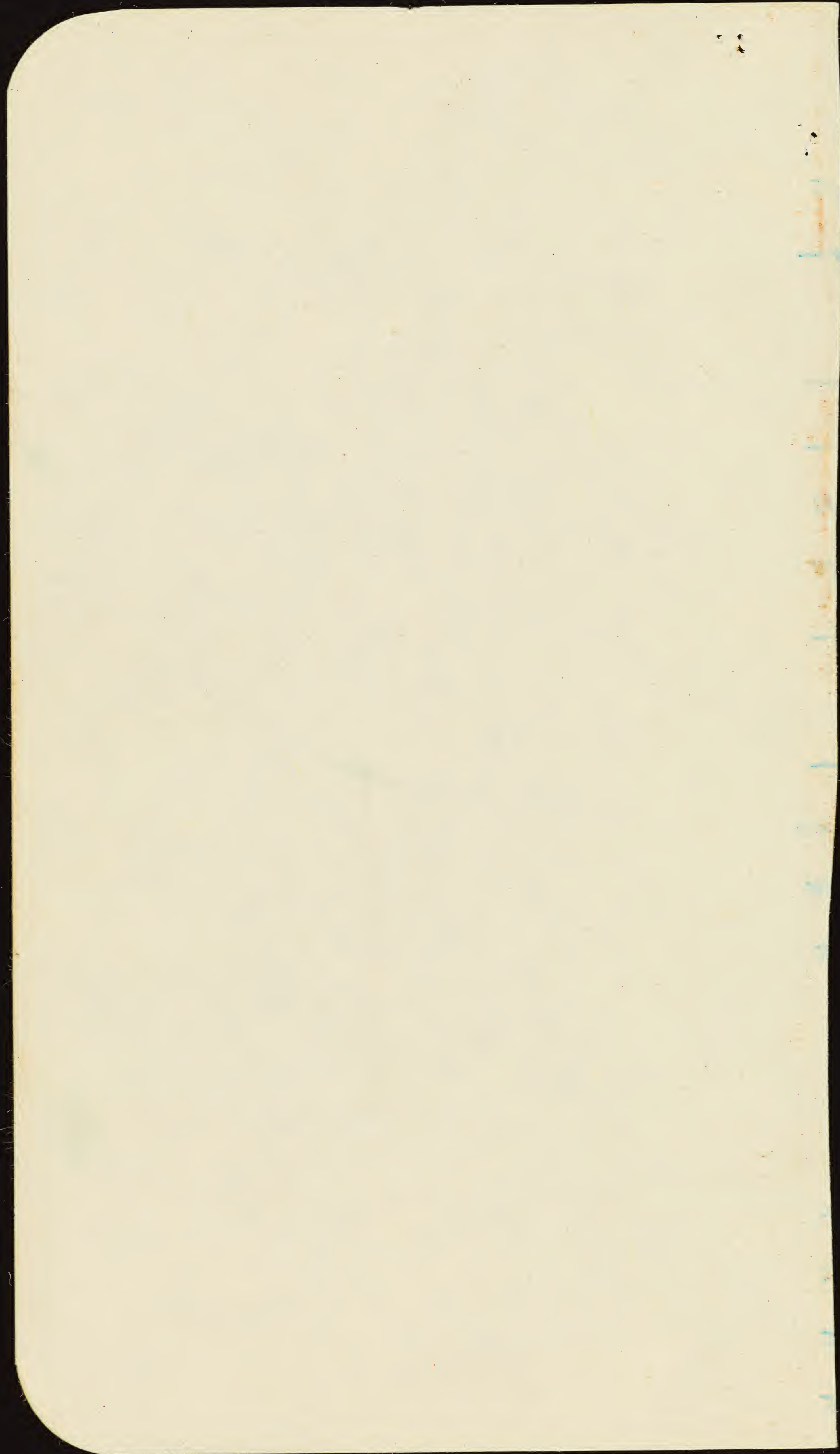
WTS: 20 nests measured
and eggs measured
and floated @
Mokapele Cliffs

20 birds: molt on
tail and ~~tail~~
primaries checked

Reptiles: collected 10
skins

Mammals: 1 mouse

Surveyed briefly:
Waihua Falls, Poliahu Falls



Vernon Beach

645-25539 - 25600

asym
w = worn



<u>Band No</u>	<u>Prim.</u>	<u>Molt</u>	<u>Tail</u>	<u>Paired With</u>
645-25539	1.0	aw	L	1 egg
" " 40	1.0	b	L	1 egg
41	1.0 (worn)	aw	L	1 egg
42	1.0 (new)	a	L	1 egg
43	1.0 (new)	a	L	1 egg
44	1.0 (new)	a	L	1 egg
45	1.0 worn	b	L	1 egg
46	1.0	a	L	1 egg
Colony C 47	1.0	b	L	1 egg
48	1.0	a	L	1 egg



Wedgetailed Shearwaters

Mokapolo Cliffs, Kawai, 14 July 67

P. Band No.

P. Prim. Molt Tail

Color Phase

Nest and Egg Data

<u>Nest #</u>	<u>No. Birds</u>	<u>Eggs</u>	<u>Ent.</u>
1	1	1	1
2	1	1	1
3	1	1	1
4	1	1	1
5	1	1	1
6	1	1	2
7	1	1	2
8	1	1	1
9	1	1	1
10	1	1	1

1 = just laid

2 = on end - bottom

5 = unbalanced surface

3 = floating

4 = surface

length floatation length width

41 (39)

2

6 x 4.2

32 (28)

1 $\frac{1}{2}$

6.2 x 4.0

38 (32)

2

6.1 x 4.1 $\frac{1}{2}$

39 (29)

2

6.1 x 4.1 $\frac{1}{2}$

44 (35)

2

6.2 x 4.1 $\frac{1}{2}$

20 (13)

4

6.6 $\frac{1}{2}$ x 4.1 $\frac{1}{2}$

22 (16)

2 $\frac{1}{2}$

6.5 x 4.4 $\frac{1}{2}$

31 (27)

2

6.4 x 4.2 $\frac{1}{2}$

18 (14)

4

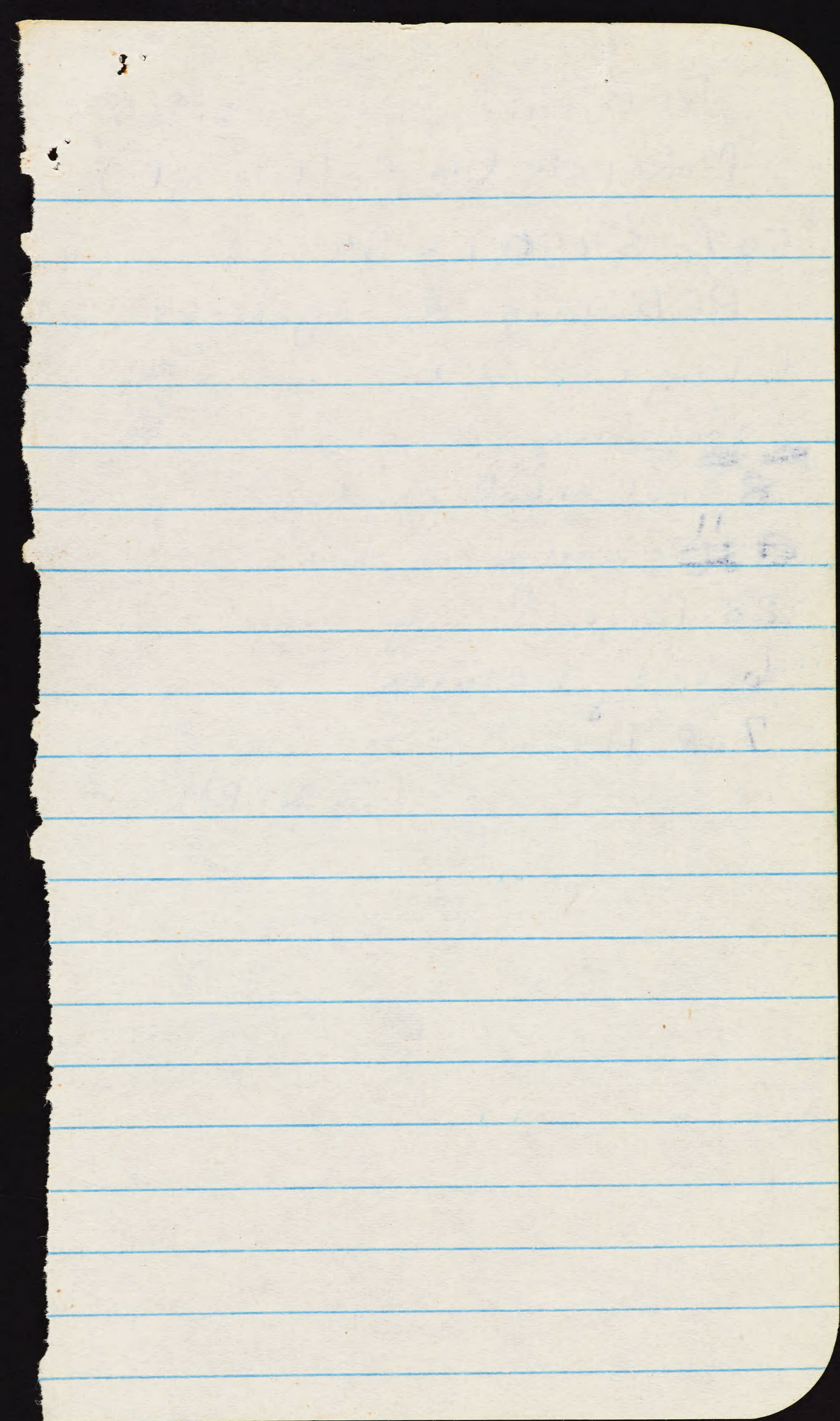
6.5 x 4.0

25 (21)

2

6.1 x 4.0

Band No. / Prim. Molt tail / CP / Paired



RFB Banded 14 July 1967
Mokapele Cliffs (Colony C)

587-84901-84920

RFB large downy chicks

Colony C = 22

36

22

58

including

~~1~~ ~~5~~ 5

17

~~8~~ small naked chicks

41

~~11~~ ~~11~~ small downy chicks

²17

28

28 large downy

6

6 early matures

51

7 adults

5:30 P.M.

6:30 P.M. 14 July 1967

Began watch of Booby Colony
C — section I was watching
contained 25 yg. and
7 adults at start

6:45 P.M. — total no. of
adults ~~25~~ 20

sky at this time overcast
during this time

10 of the 13 coming in
alighted in ~~the~~ nest
chicks, 7 of these fed
chicks — during this
period 4 frigate chases

29 large downy with
small downy in same nest

Colony B - found to be
North facing slope and also
E facing slope - add another
~~1~~ 8 large do chicks,
3 small downy chicks,
1 naked, and 5 adults
9:30 P.M.

Sera

15 July 1967 Kilauea Pt.

with large chick

1 ✓ 587-90117 ♂? TW WN

2 ✓ 587-60850 ♂? TW WN

(on small chick)

3 * 767-47525 ♀ TW WN

(small chick

4 ✓ 767-50333 ♂ TW WN

1 small chick

5 ✓ 757-60884 ♂ TW WN

1 small downy chick

6 * 767-47526 ♂ TW WN

7 * 767-47527 ♂ TW WN

Mokapele Cliffs

8 * 767-47528 ♂ TW WN

9 * 767-47529 ♂ TW WN

10 * 767-47530

11 * 31

12 * 32

13 * 33

14 *

15 ✓ 587-90113

2 Ent. 41(38) 2 $5.7\frac{1}{2} \times 4.0$

2 Ent. 44(41) 2 6 x 4.2

2 Ent. 36(26) 2 6 x 4

2 18(12) 4 5.6×4

1 ~~45~~(23) 2 6.2×4.2

1 28(23) 4 6.2×4.0

1 43() 2 6.2×4.1

1 2 $6.2\frac{1}{2} \times 4.0$

2 4 $6.2\frac{1}{2} \times 4.1\frac{1}{2}$

2 X ~~2~~ $6.2\frac{1}{2} \times 3.9$

Wedgetails



615 - 06347 Alone a w

Tail Prim.

— Dark Alone leg. a w

524-94624

Infer. legg a OK

~~635~~

~~52~~ - 20599

aw OK new

—

aw OK new



645-16504

aw OK

—

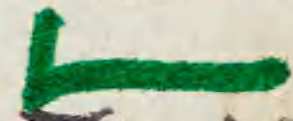


645-25509



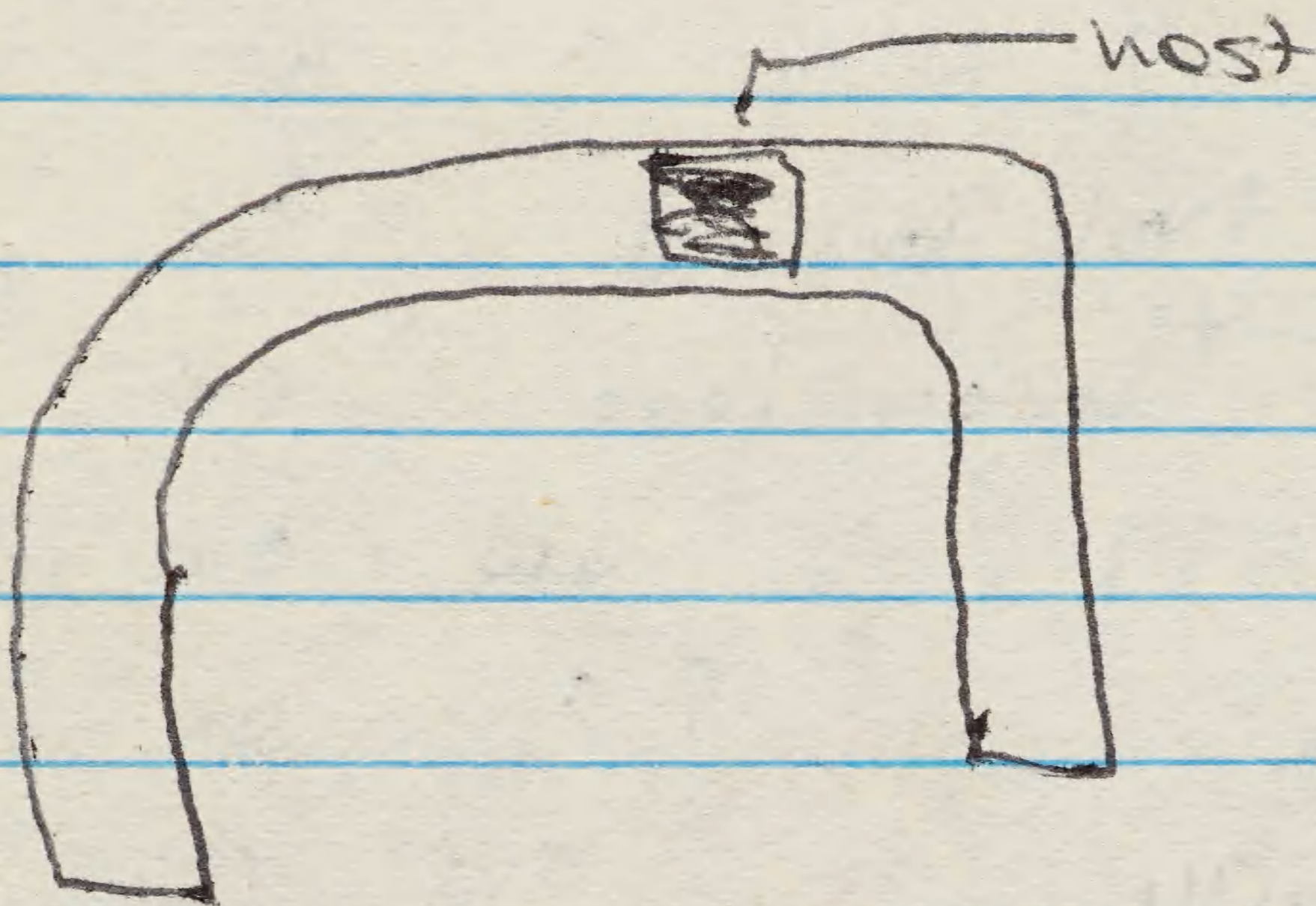
544-50535

aw OK new



524-94629-635-26161

—



Kauai 16 July '67

Wedge-tailed

Fitch

Shearwater Returns
Out on ground

625-3235

635-26174

645-16228

624-19461

615-15880

615-05111 —

635-26180

645-22059

645-25524

635-26149

635-25506

615-05167 —

Ocean - vicinity

Oahu calm - no
white caps - Tropic
Storm Denise

8:35 A.M. 16 July 1967

53 RFB colony B

including: ~~23~~²⁶ roosting birds

1 Mouse in Wedgetail

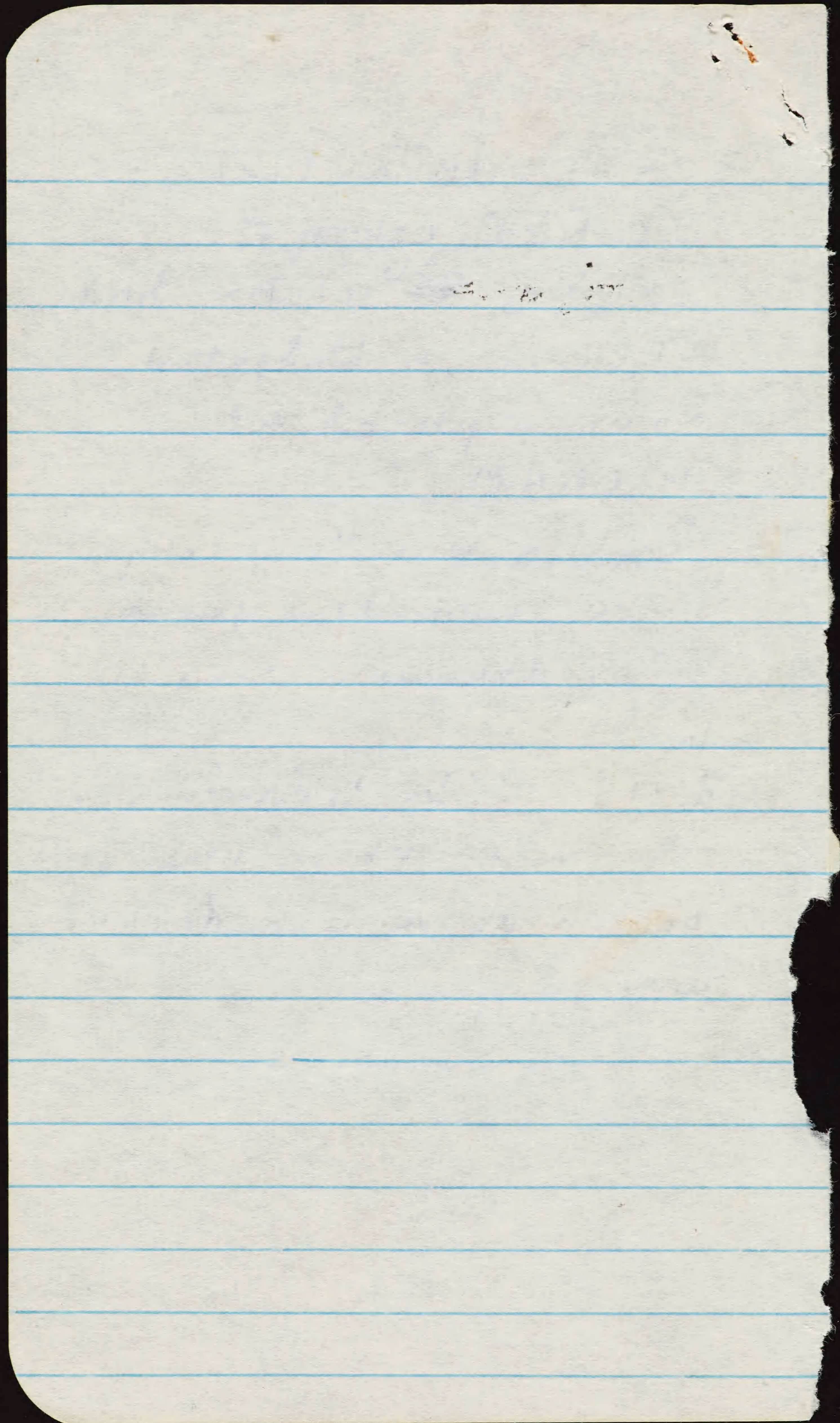
Colony captured at

4:00 A.M.

Boobies must frequently
make ~~two~~ or three passes
before they are ready to
land

8:45 Birds Wedgetail size

seen - white underneath,
brown above with darker
wing tips,




Fitch

Kilauea Pt., Kauai

14 August 1967

Kilauea Pt., Kawaii

14 August 1967

Wedge-tailed Shearwaters, 

<u>Sera #</u>	<u>Band No.</u>	<u>Paired With</u>
1	645-25559	—
2	^m 635-26104	—
3	^m 615-07016	—
4	645-25560	—
5	61	—
6	^m 635-26168	—
7	^m 625-32241	—
8	62	—
9	^m 615-07015	—
10	^m 625-26153	—
11	^m 645-25517	—
12	^m 615-06426	—
13	63	—
14	^m 635-26113	—
15	^m 645-25560	—
16	64	—
17	65	—
18	^m 645-26147 (D) ^m 615-05058	—
19	^m 625-26120	—

Band#

W = worn

Color Phase:

Dark = D

Intermediate I

Light = L

645-25559Wing
~~Body~~

Status

Tail

Molts

Notes

no egg
burrow worn worn

in nest W } SW

in nest W W

in nest W W

" " W W

" " W W

" " W W

" " W W

" " W W

" " W W

" " W W

" " W W

" W W

" W W

" W W

" W W

" " "

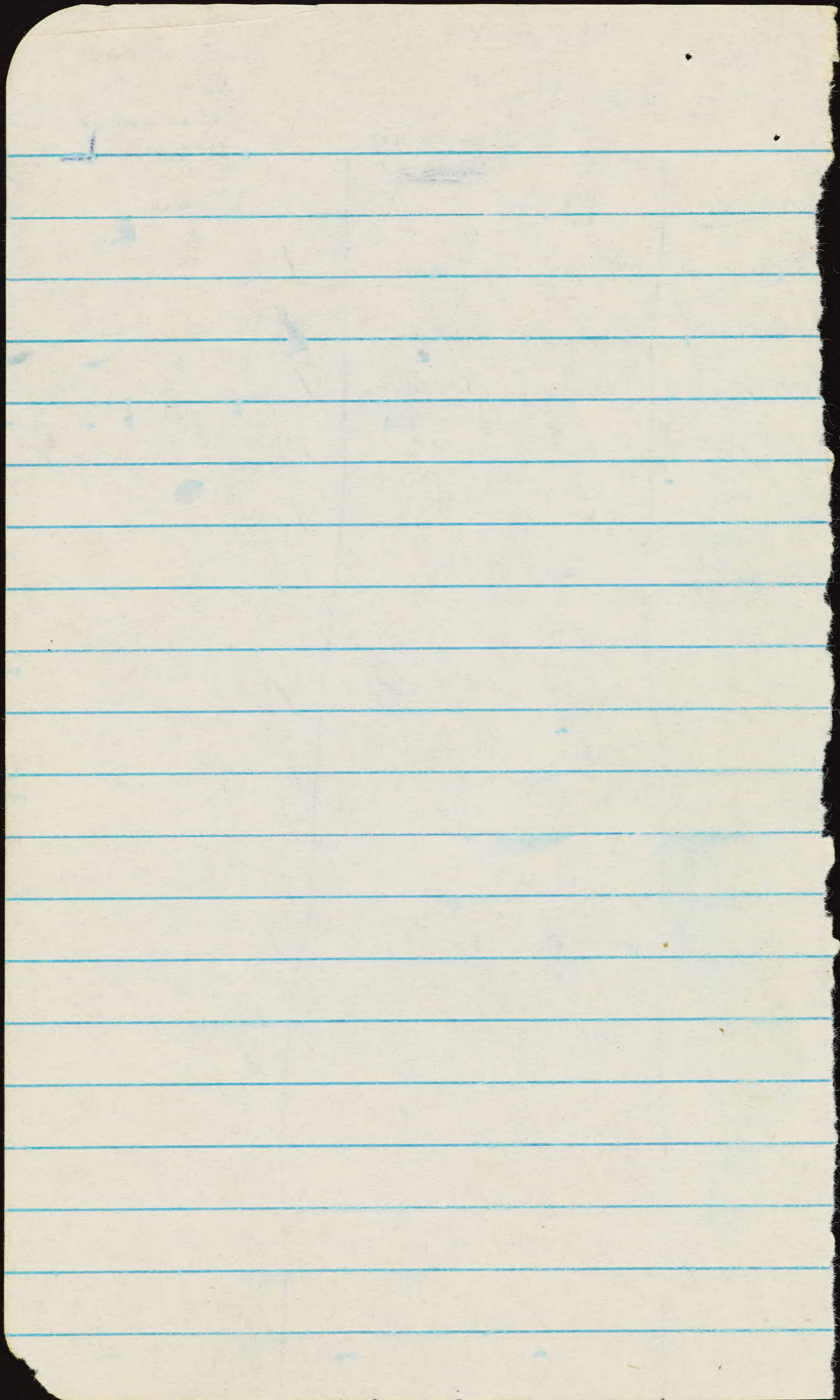
" W W

" W W

" W W

" W SW

Dark



ok.

J - 2564 383 - 19, Jan. 66

No 2 piston was burned up. from overheating rings were frozen to piston. cylinder not ~~bad~~ scored too badly. Engine was overhauled. New piston in no. 2 cylinder. New rings and gaskets were installed along with general clean up and lubrication of rest of engine. New points and condensers were installed.

Parts used

Pint sets	2
condensers	2
Overhaul gasket set	1
Ring sets	2
Pistons	1
T bottle handle	1
Starter rope	1
Wrist pin retainers	2

old rod keepers had to be used.

→

Sera [#]	Band No.	Status
20	66	
21	67	
22	635-10084	
23	615-05061	
24	635-26128 (L) 615-07037	
25	635-26101	
26	645-22041	
27	635-20550	
28	615-06325	
29	635-26114 (L)	
30	68	
31	645-22052	
32	524-94652	
33	69	
34	635-20595	
35	70	
36	645-25514	
37	71	
38	72	

←
T.

ω

molt

Notes

ω¹ ω

F

ω¹ ω

/

ω¹ ω

/

ω¹ ω

/

ω ω

/

ω ω

/

ω₁ ω

D

ω ω

/

ω ω

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ω¹ ω

/

ω₁ sw

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ω₁ ω

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ω ω

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ω ω

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ω ω

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ω¹ sw

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ω¹ ω

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ω₁ ω

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ω¹ ω

/

,

Sera # Band # Status

39 645-00383

635-24121 (2)

40 615-06348

41 615-07070

42 645-00371

43 73

44 645-25509

45 74

46 625-30691

47 625-32392

48 635-20592

49 75

50 76

51 615-07064
635-26195 (2)

52 77

53 544-50563

54 78

55 79

56 615-06356

57 80



T moit w

Notes

w | w

/

w | w

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w | w

/

w | w

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w | New

D

w | w

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Sero⁴ Band[#]

58 W645-16225

59 W615-07040

60 W615-05159

61 81

62 82

63 W615-06237

64 83 ~~83~~

65 84

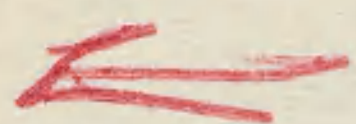
66

67

68

69

70



W T
moff

Notes
~~Notes~~

Status
~~Status~~

w | w | 1

w | w | 1

w | w | 1

w | w | 1

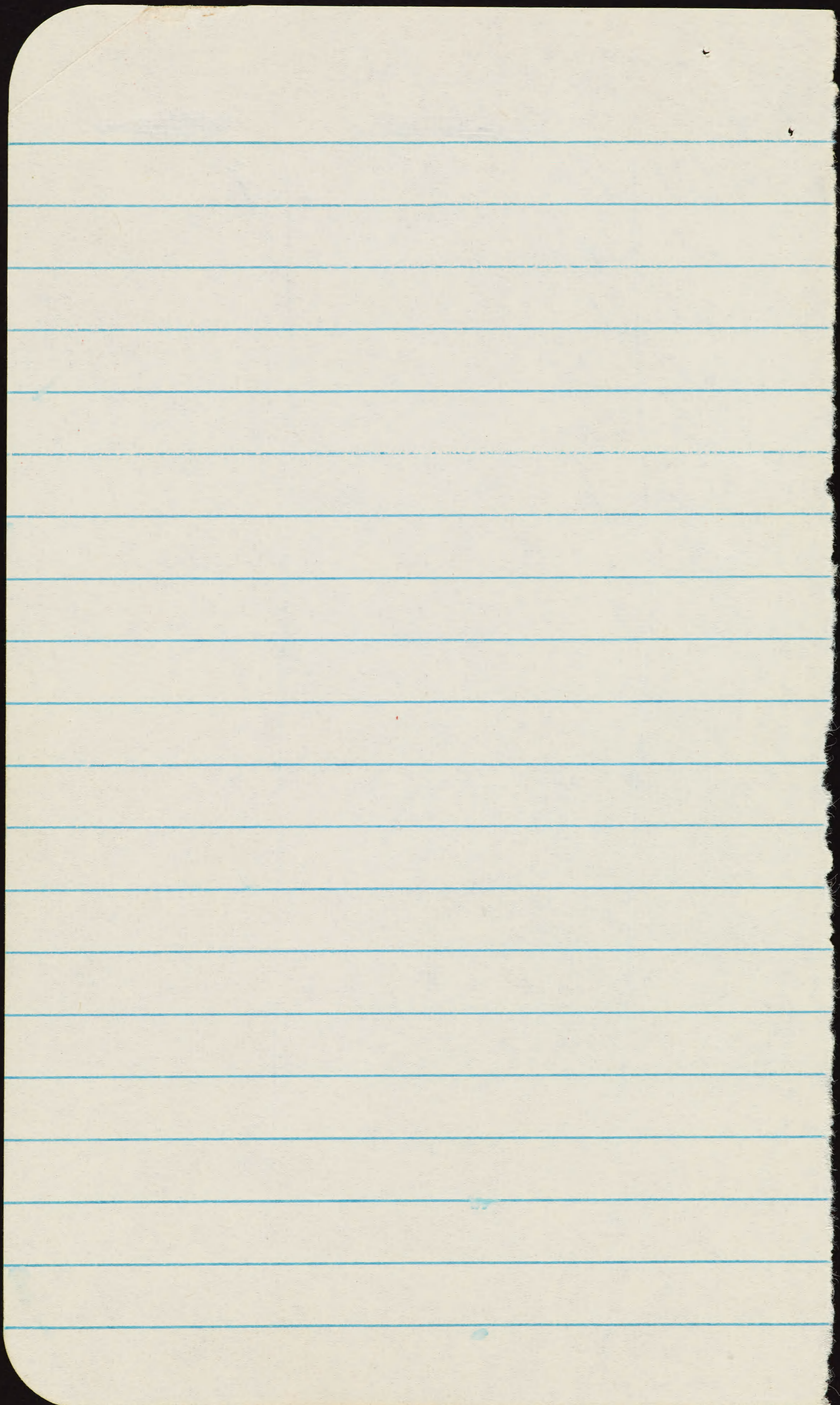
w | w | 1

w | w | 1

w | w | 1

w | w | 1

3



767-45013 70 ^(?) 67

587-90109 68 66
69

587-84916 71 68

587-84913 72 69

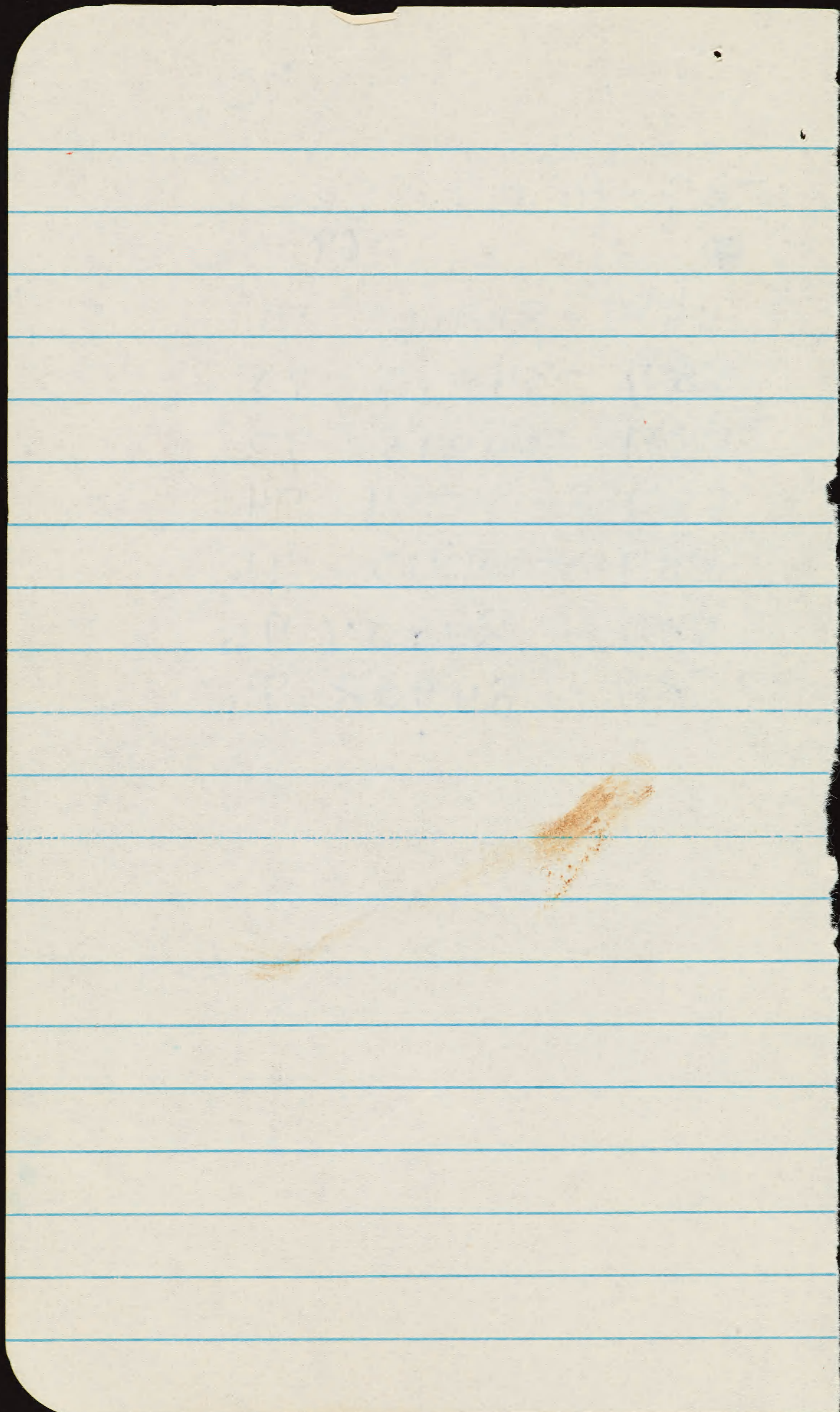
587-84915 73 70

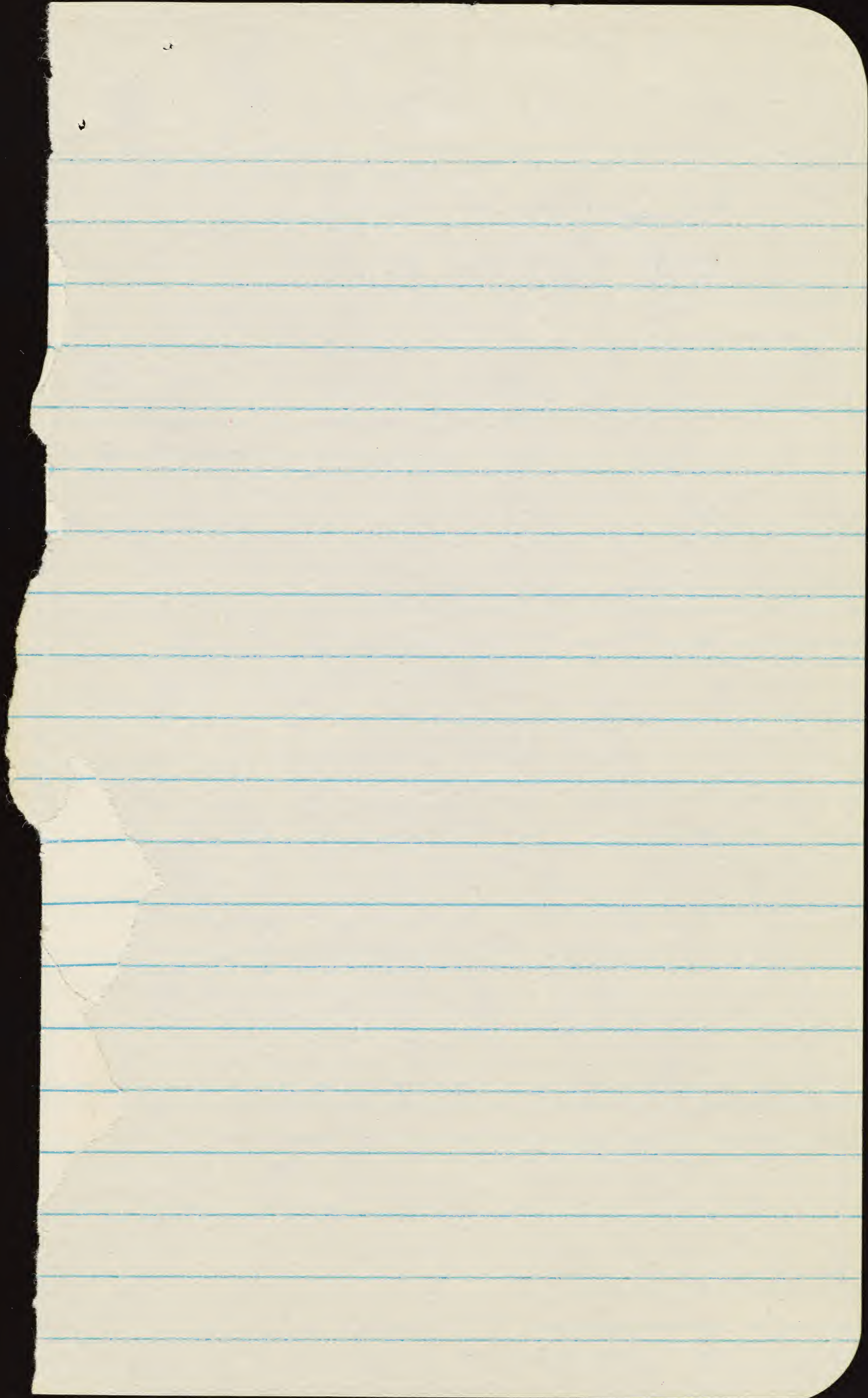
587-84914 74 71

587-84912 75 72

587-84904 76 73

587-84908 77 74





1 large turtle swimming
near Makapili Rock

Aug. 15, 1967

RFB Colony C : 4:00

46 large downy chicks

22 locals - dark brown or
black plumage

3 adults

RFB Colony B : 5:00

23 locals

3 large downy chicks

2 adults

large number of immatures (locals)
observed in air on this trip

RFB Colony A :

2 local

1 adult

3 large downy chicks

Island

Frigates : 58

RFB : 2 adults

15 Aug, 1967

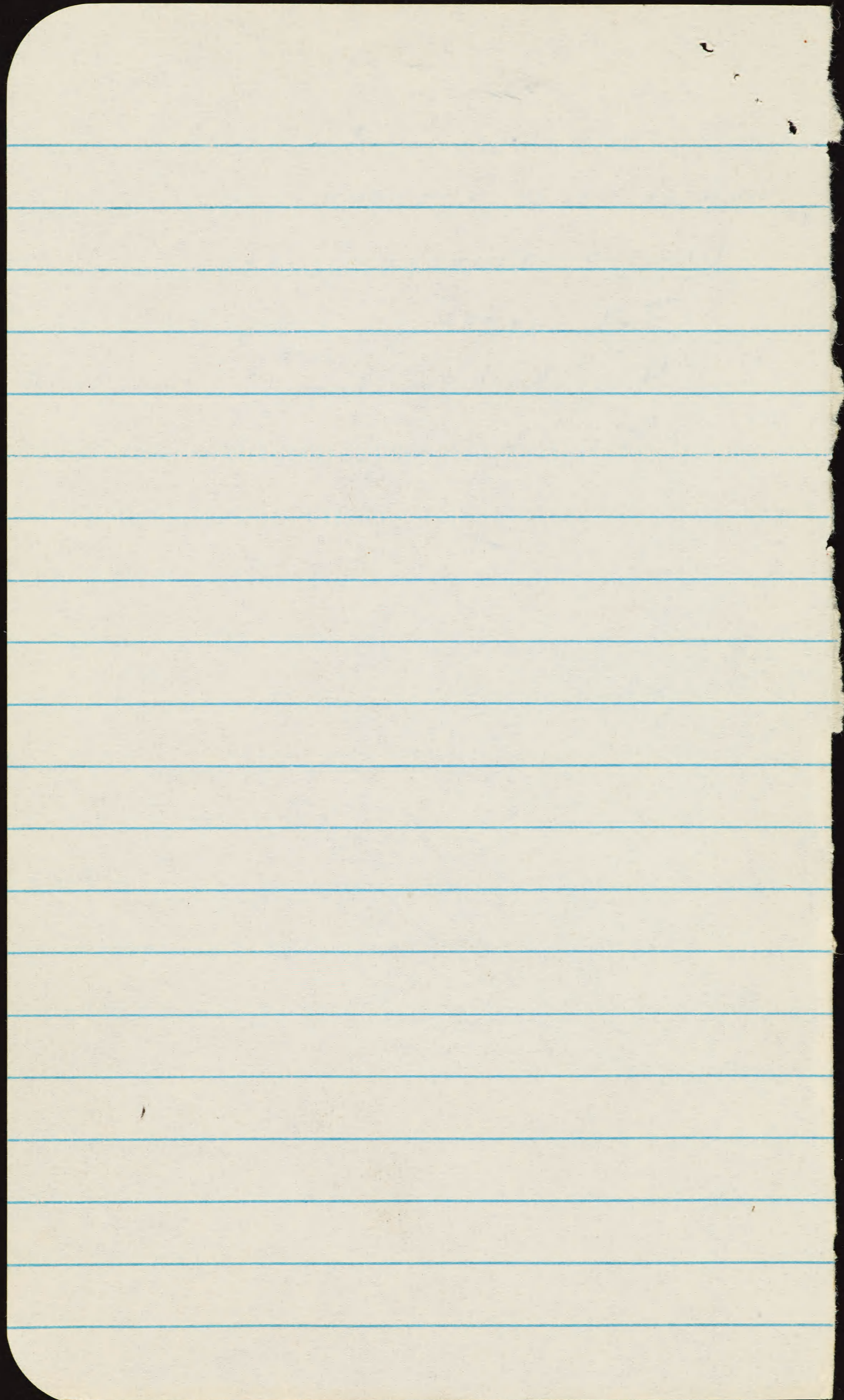
Wedgetailed Shearwaters

10 nests : Makapili Cliffs

3 deserted

4 with 1 small ^{downy} chick 1 week old

3 with egg



KILAUEA POINT

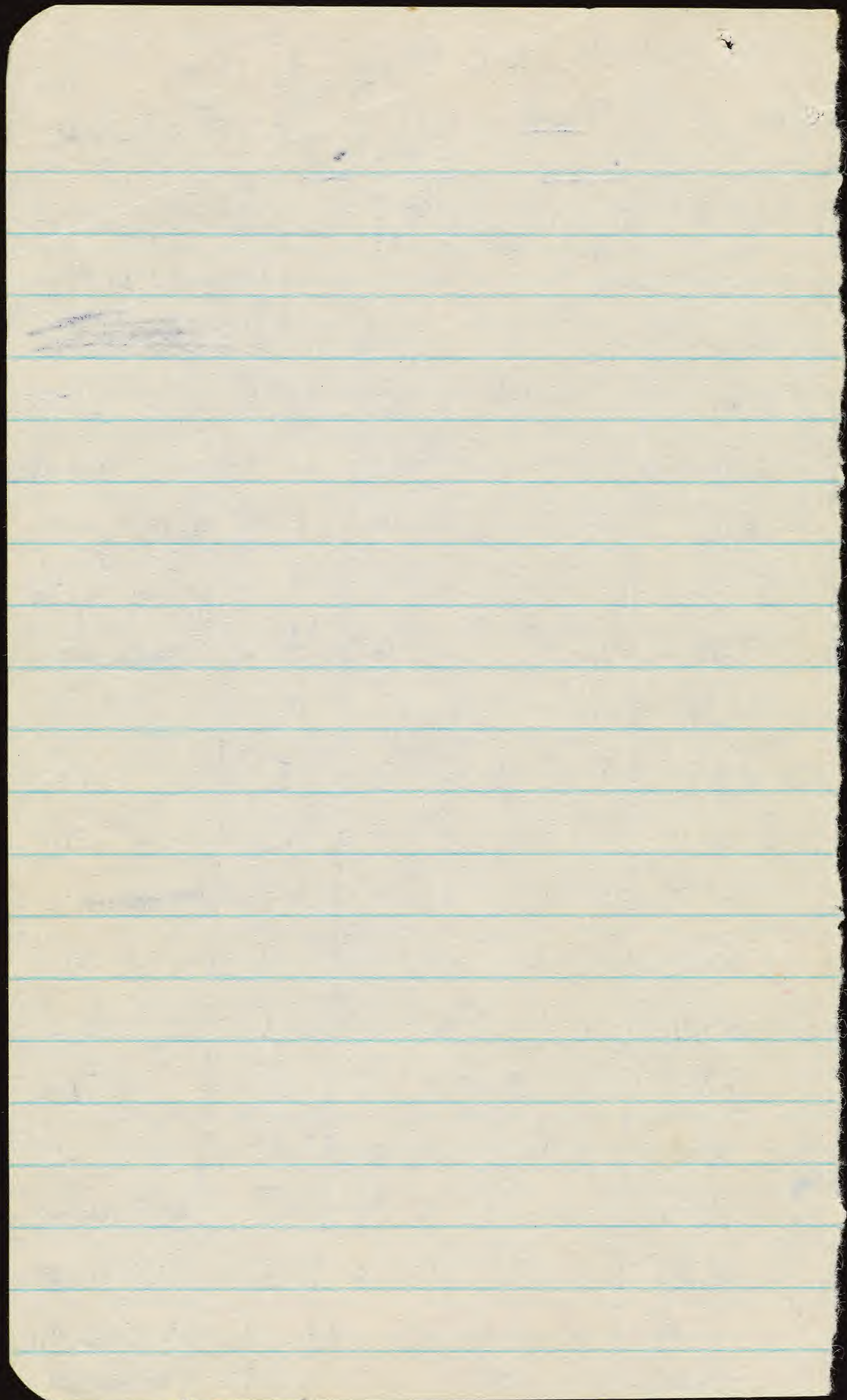
9-11 Sept. 1967

Bands: 645-075¹⁵~~31~~-

Wedge-tailed Shearwaters

Cat. No.	Molt		CP	Remarks
	Wing	Tail		
8321	10/10 W	w ^b / ₆	D	635-26198
322	" "	" "	I	645-25521
323	" "	" "	I	645-25521
324	" "	" "	I	16 25
325	" "	" "	I	17 25
326	" "	" "	I	645-25561
327	" "	" "	I	635-26111
328	" "	" "	I	615-06303 645-00361
329	" "	W I	I	18
330	" "	W ^b / ₆	I	19
331	" "	" "	D	20
332	" "	" "	I	615-06303
333	" "	" "	I	21
334	" "	" "	I	22
335	" "	" "	I	23
336	" "	" "	I	24
337	" "	" "	I	645-00368
338	" "	" "	I	615-06326
339	" "	" "	I	635-26176
340	" "	" "	D	645-26176

I = inter.
L = light
D = dark



Molt

Cat.
No.

Tail

Wing

CP

Remarks

341

10/10W

6/6 W

I

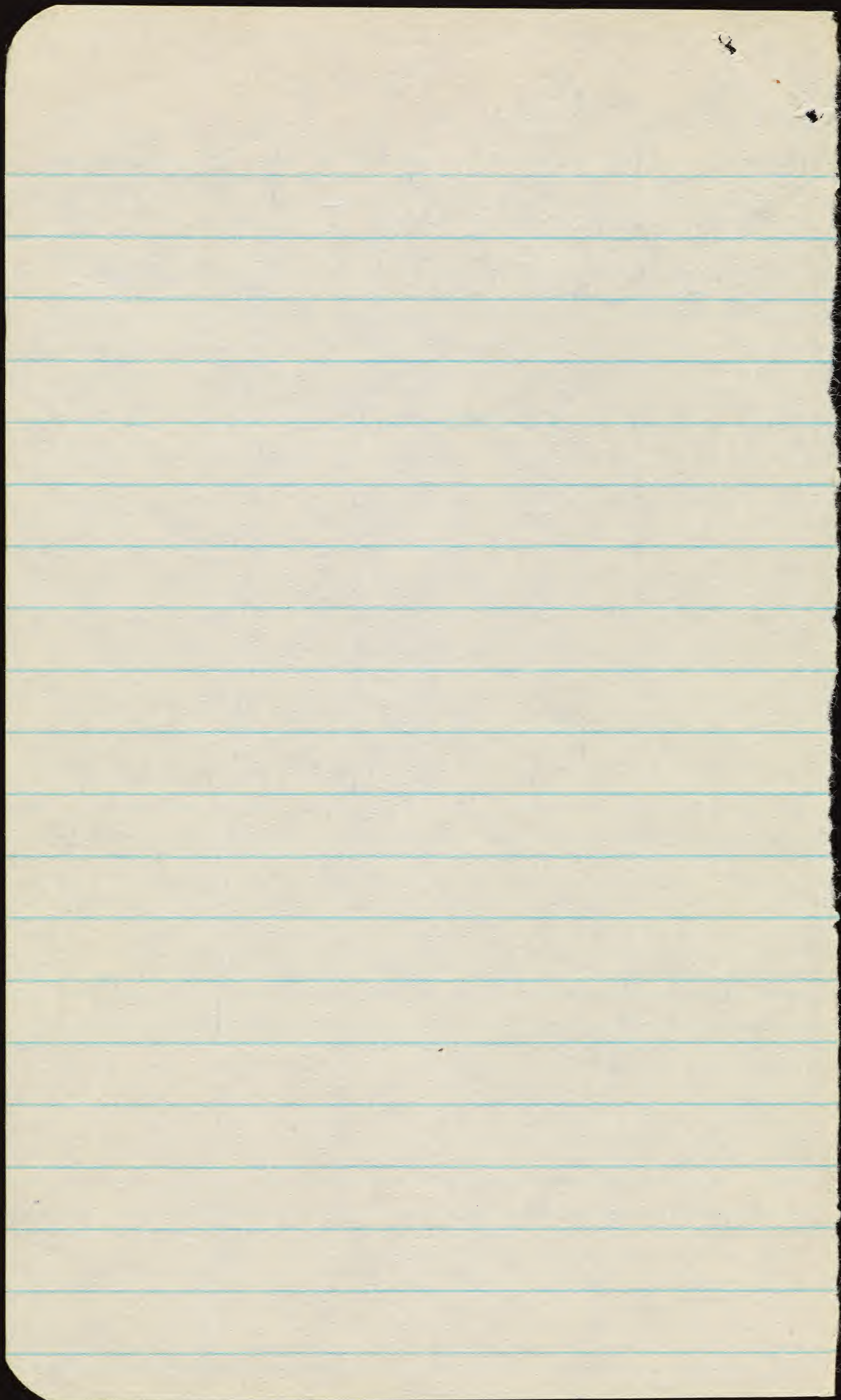
27

342

10/10W

6/6 W

no band



Kauai
9-11 Sept. 1967

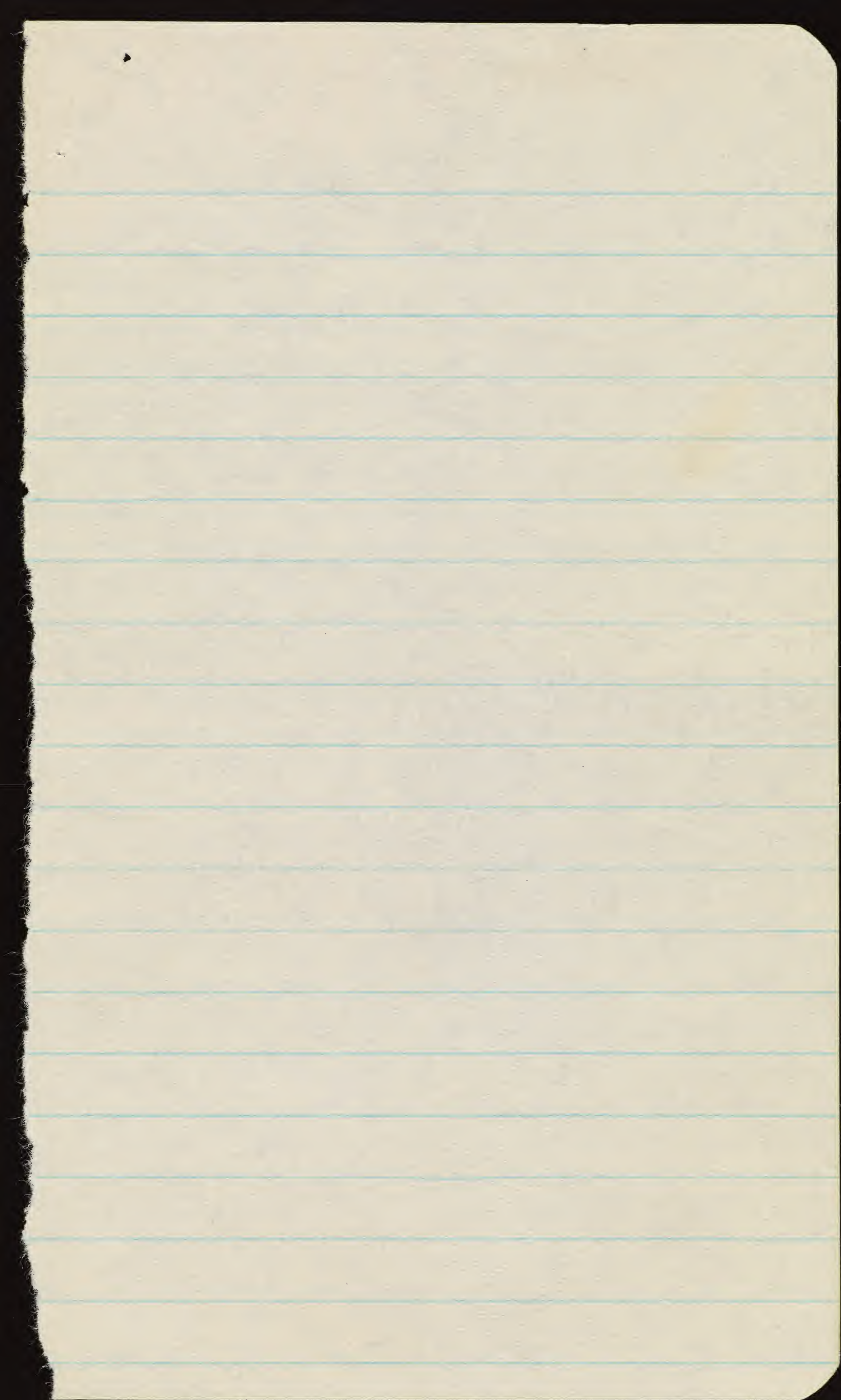
Lihue Airport, Kauai, Hawaii, 9
Sept. 1967

Arrived at Lihue Airport
at 11:05 A.M. Sky sunny
with high cumulus cover -
temperature in high 80s
On flight in several (3)
WTTB observed flying in
vicinity of cliffs SE. of
airport. 4 doves were
seen in settling pools
 $\frac{1}{4}$ mi. W. of airport.

~~Fruit~~
~~Swim Suit~~

Plans:

- 1.) Set out 15 small mammal traps at Kilauea Pt. on night of 9th and 15 on Makapili Cliffs on night of 10th
- 2.) Population counts of RFB at 3:30 P.M. of 9th →
Dark, sera sample WTS beginning at Dark



T

No.

Type Chick

Burrow

1

A

16 in. earth and lava

2

B

14 in. "

"

Chicks: Variation in
Size

A individual: large Downy feathers
white

1. : large white Down giving
way to gray Down - molt

Wedge-tail

1w 645-25547 2 10/10 N, 6/6 N
w chick (large downy)

2w → I-D 10/10 N 6/6 N

w large downy chick

3w → I-L 10/10 N, 6/6 W

4w I

5w I

6w

7w

8w

RFB

Bands: 767-53118-26

- * 1. 757-50394 TW, W $\frac{10}{10}$ ♀
- * 2 587-90109 TW, W $\frac{10}{10}$ ♂
- 3 18 TW, W $\frac{10}{10}$ N + ?
- 4 — immature
- 5 — immature
- 6 — immature
- 7 767-53119 - TN, W $\frac{10}{10}$ N ?
- 8 767-53120 TW, W $\frac{10}{10}$ N ?
- 9 767-53121 TN, W $\frac{10}{10}$ N ?
- 10 767-53122 TW $\frac{10}{10}$ N ?
- 11 767-53123 TW $\frac{10}{10}$ N ?
- 12 767-53124 TN $\frac{10}{10}$ N ♂
- 13 767-53125 TW $\frac{10}{10}$ N ♂
- 14 767-53126 TN $\frac{10}{10}$ N ♀
- * 15 587-84918 immature
- 16 " immature

8 4 7 6 5 4 3 2 1

Kilauea Pt., Kauai

1

Itinerary

Fitch

25 Oct. 1967

International Airport, Oahu 25 Oct. 67

Left airport aboard Aloha jet
at 1:25 P.M. and arrived
at Lihue, Kauai at 1:45 P.M.
Weather warm (87°) and
sunny with occasional high
cumulus cloud cover.

Russell Robinson

Makaweli

386-842

Uncle - Lester

386-751

George Susterich

374-843

Kohaha

Hawaii National Guard

Red-footed Booby
Colony C

4

Makapele Cliffs, Kauai 25 Oct. 1967

4:00 P.M. 19 adults

2 immatures

5:00 P.M. 56 adults

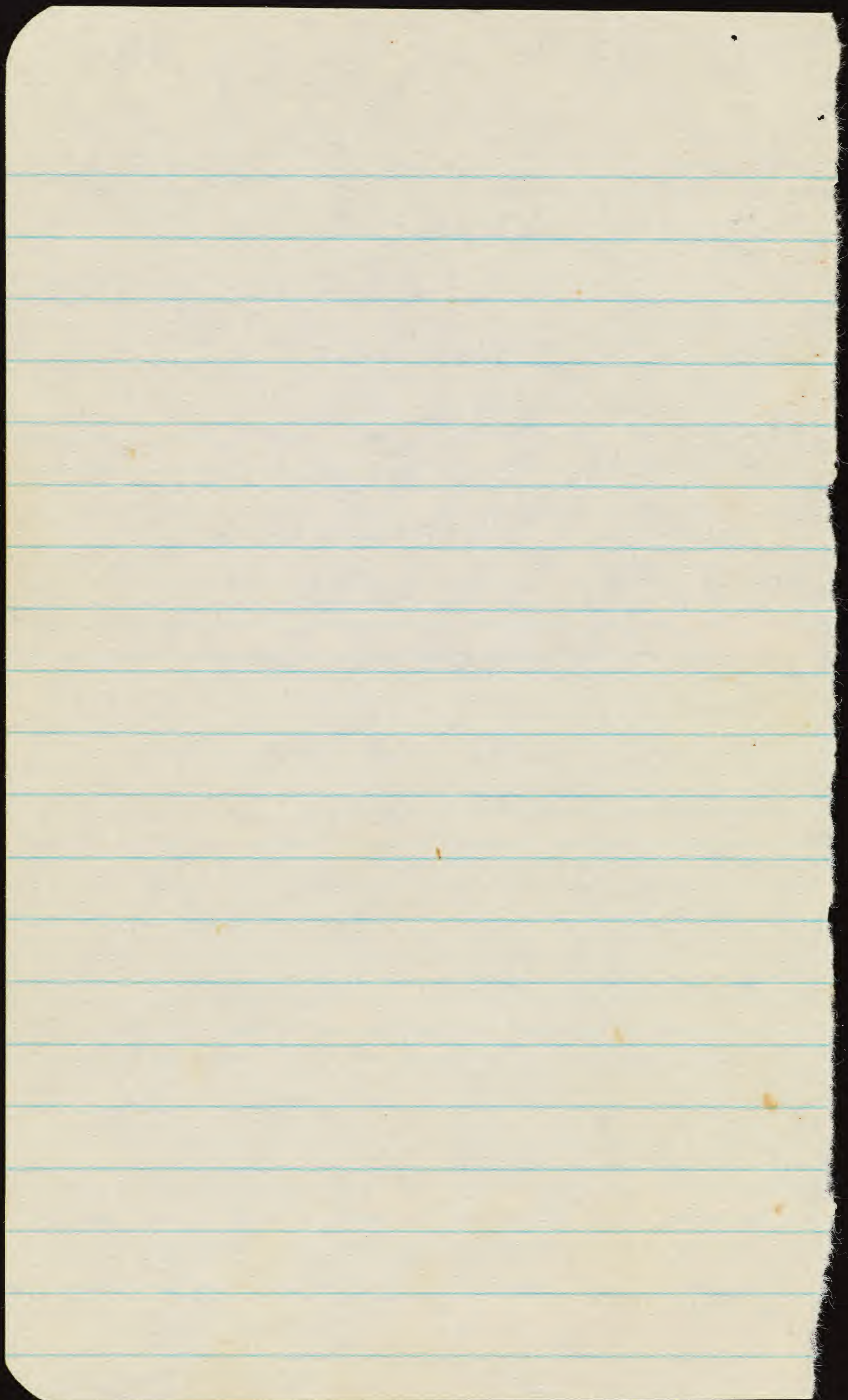
31 immatures

6:00 P.M. 211 adults

68 immatures

7:00 P.M. 215 adults

68 immatures



Red-footed Booby
Colony A

5

Kilauea Point, Kauai 26 Oct. 1967

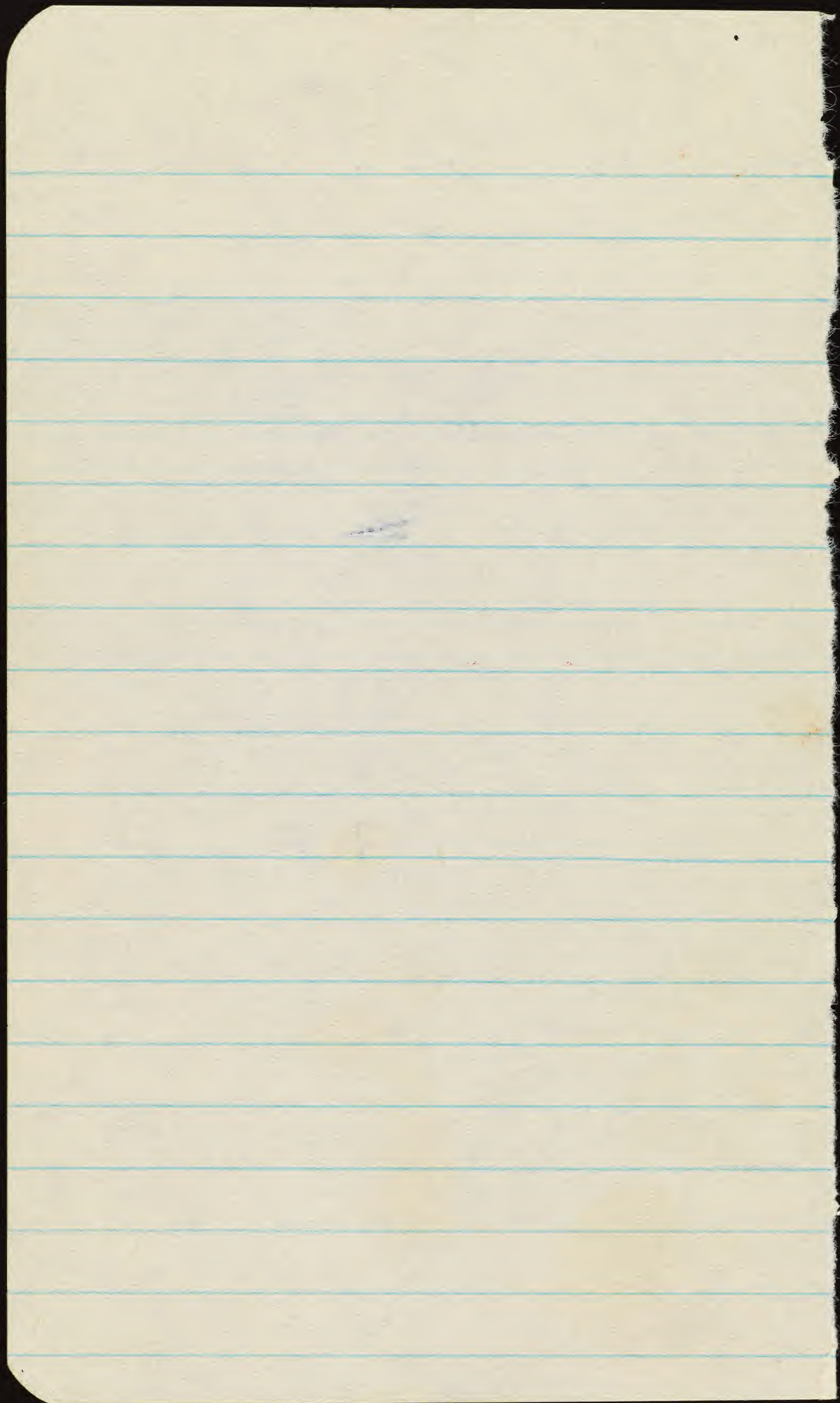
6:30 AM. : 21 adults
9 immatures

Across cove (Colony B)

6:30 AM. 51 adults
~~12~~ immatures

Mokuauia Island, Kauai

7:00 AM. 42 adults
4 immatures
47 Frigates



Description of young:

legs - pinkish gray - retives
just coming in, as are primaries

~~Wed.~~

Wedge-tailed Shearwaters

bands issued: 645-25601-700

bands used: ~~645-25601-700~~

645-25601-10 large chicks

645-25611-20 adults (bled)

645-25621-25 large chicks

(No returns)

Wedge-tailed Shearwater⁷

Makapele Cliffs Kauai 25 Oct. 1967

Shearwater nests investigated

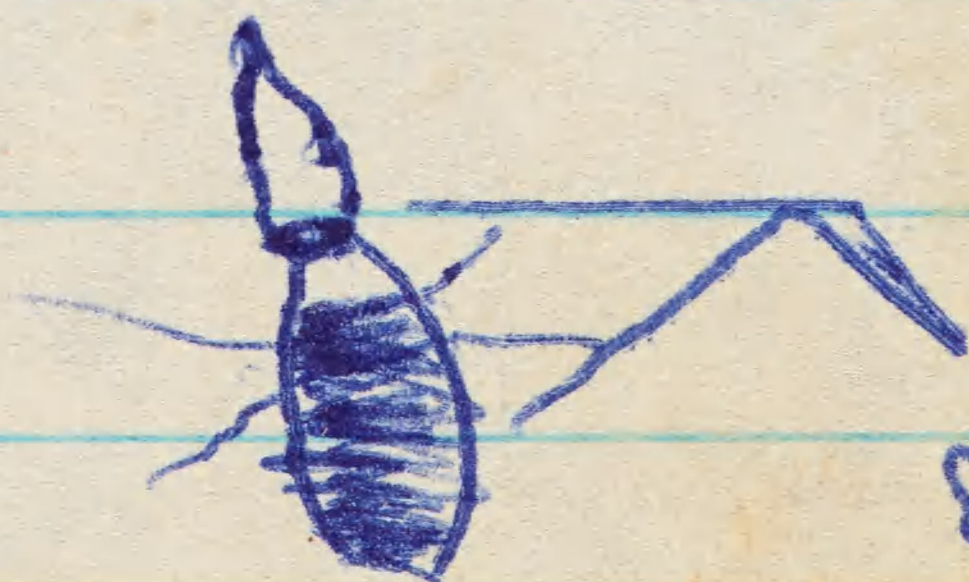
Those to right of fence on cliffs
(bare ground with minimum of grass)

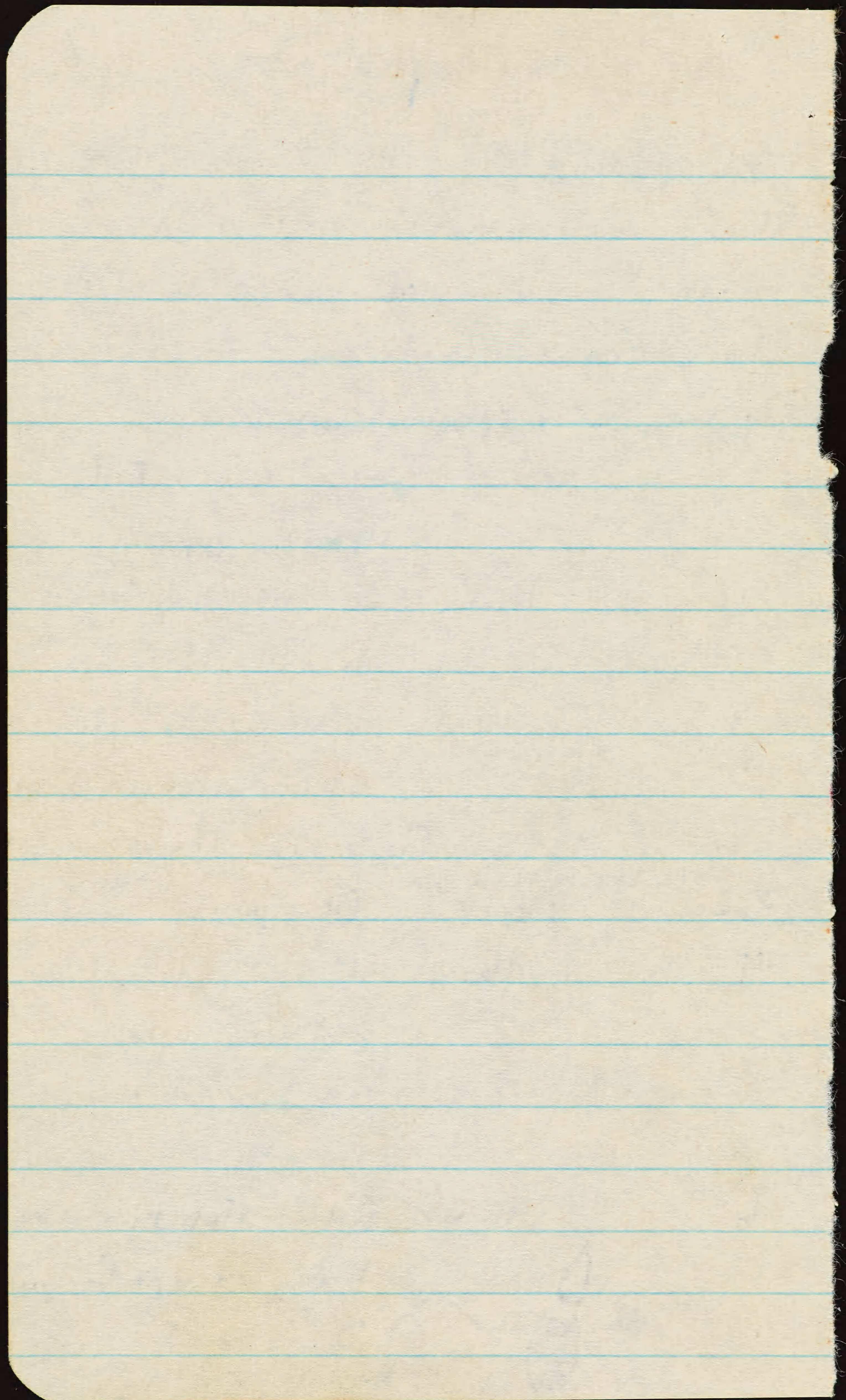
<u>Burrow #</u>	<u>Depth</u>	<u>Occupant</u>
1	12 in.	645-25601 Tail tips of wings
2	16 in.	sm. nestling - dead for several wks
3	20 in.	645-25602 Tail tips and edges of wings

Left of fence in Casuarina trees

<u>Burrow #</u>	<u>Depth</u>	<u>Occupant</u>
4	16 in	645-25603 Tail and wing surfaces
5	8 in.	egg found but no chick

6	16 in.	645-25604 entire body except follow ^{ing} 2 areas of down ventrally
---	--------	---





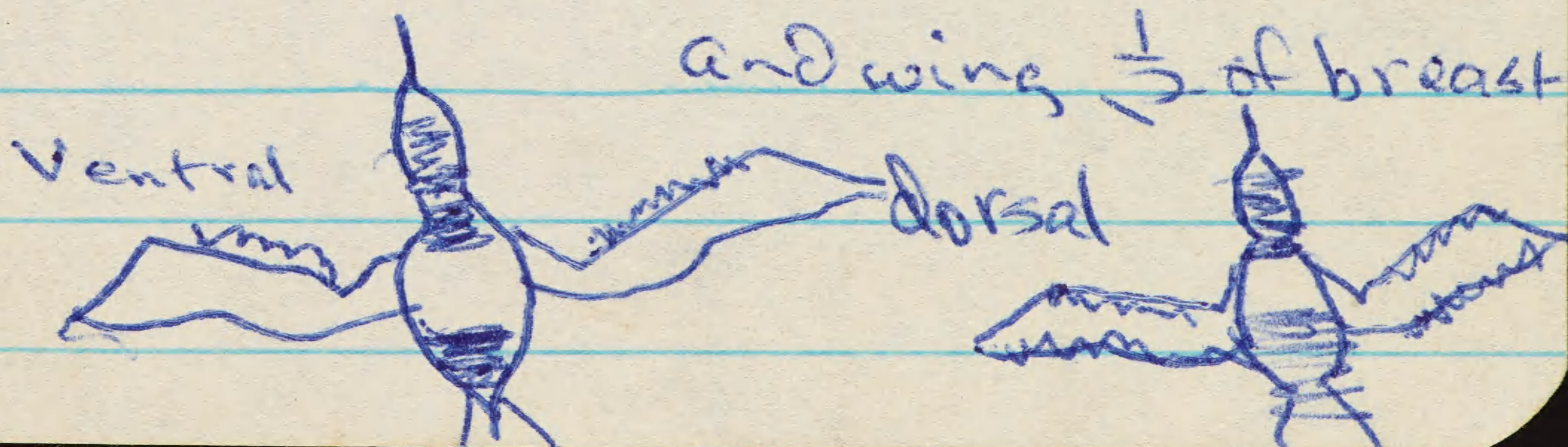
Wedge-tailed Shearwater 8

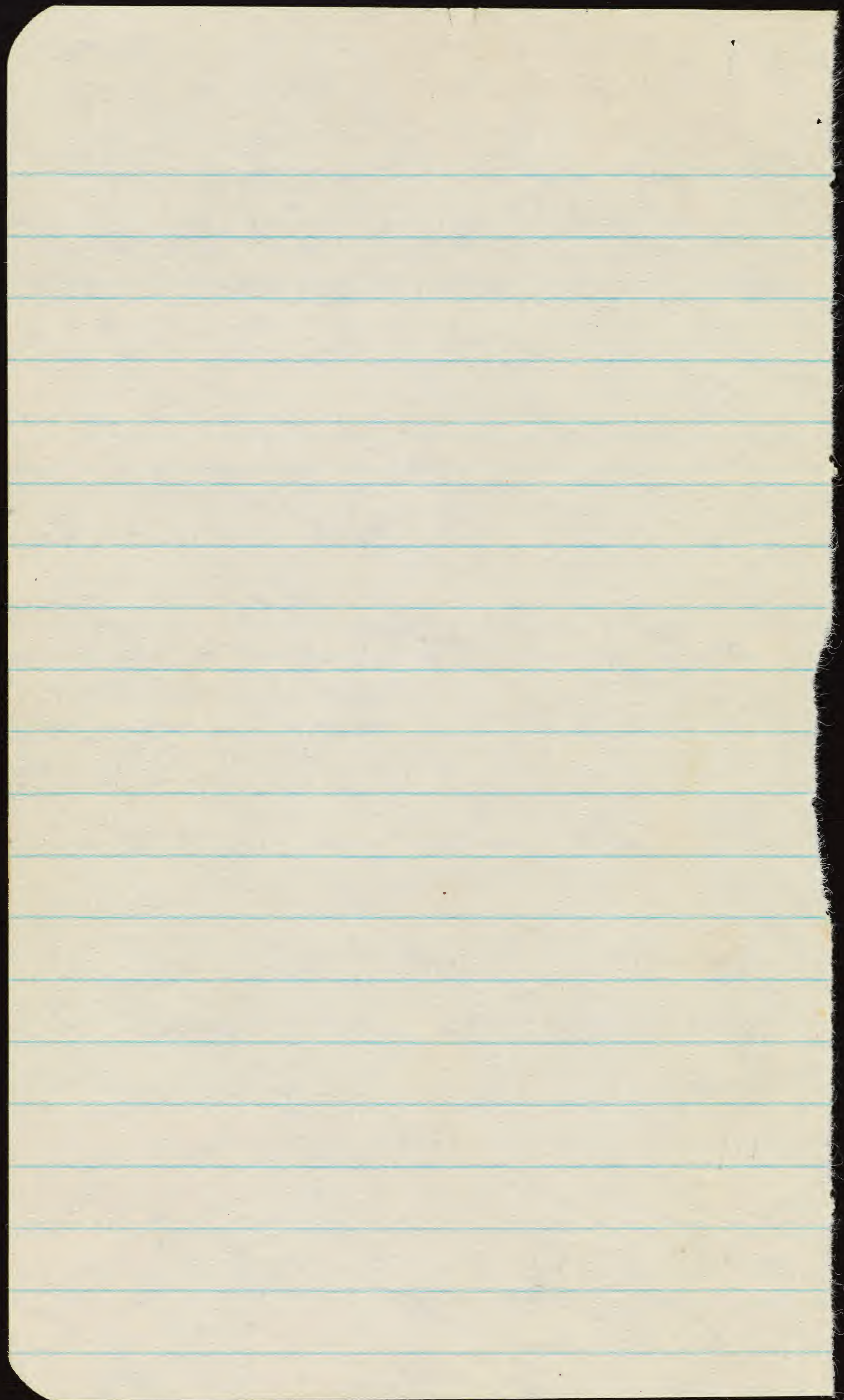
Makapulo Cliffs (continued)

<u>Burrow #</u>	<u>Depth</u>	<u>Occupant</u>
7	21 in.	645-25605 tail From throat $\frac{3}{4}$ length to tail wings, around beak,
8	11"	none
9	14"	none
10	19"	645-25606 tail tip and wing tips
11	12"	645-25607 tail, wings and ring around throat up and low, around beak wing base. also on right side around
12	16"	645-25608 - tail and wing tips
13	14"	none

Area to left of study area -
bare ground w minimum grass

14 12" 645-25609 - tail
and wing $\frac{1}{2}$ of breast





Wedge-tailed Shearwater

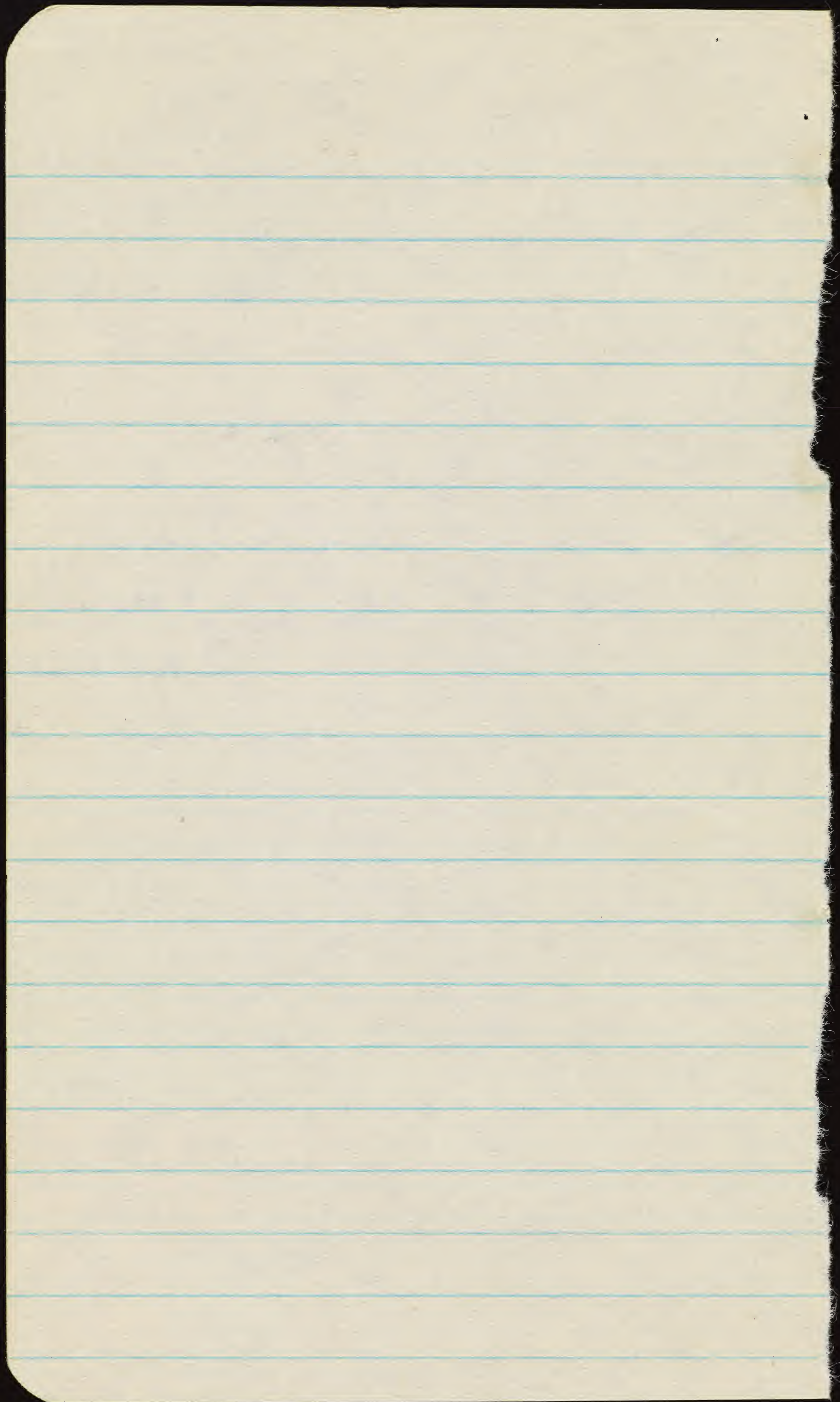
9

Makapele Cliffs (continued)

<u>Burrow #</u>	<u>Depth</u>	<u>Occupant</u>
15	22"	645-25610 tail wings middle $\frac{1}{4}$ breast

On ledge in Booby Colony C

<u>Burrow #</u>	<u>Assoc.</u>	<u>Band</u>	<u>Stage</u>
16	1 Ad.	645-25621	tail, wings
17	1 ad.	645-25622	tail, wings head $\frac{1}{4}$ breast



Blood Collections 11
Wedge-tailed Shearwater

Makapule Cliffs, October 26 1967

<u>Number</u>	<u>Assoc.</u>	<u>Band</u>	<u>Molt</u>	<u>P.</u>
1	inc	645-25611	Tsw, Wn	I
2	inc	645-25612	Tw, Ww	L
3		645-25613	Tw, Wn	I
4	inc	645-25614	Tw, Wn	L
5	1 ch	645-25615	Tw Wn	I
6	none	645-25616	Tw Nn	I
7		645-25617	Tw, Wn	L
8		645-25618	Tw Wn	L
9		645-25619	Tw, Wn	I
10		645-25620	Tw, Wn	L

Red-footed Boobies

Bands issued:

Blood Collections

12

Red footed Boobies

Nakapele Cliffs, 26 October 1967

<u>No.</u>	<u>Band No.</u>	<u>Age</u>	<u>Molt</u>
------------	-----------------	------------	-------------

1	767-44501		
---	-----------	--	--

2	587 84912		
---	-----------	--	--

3	44502		
---	-------	--	--

4	44503		
---	-------	--	--

5	44504		
---	-------	--	--

6		05	
---	--	----	--

7		06	
---	--	----	--

8		07	
---	--	----	--

9		08	
---	--	----	--

10		09	
----	--	----	--

11	767-44510		
----	-----------	--	--

21

10-10-71

10-11-71

10-12-71

10-13-71

10-14-71

10-15-71

10-16-71

10-17-71

10-18-71

10-19-71

10-20-71

10-21-71

10-22-71

10-23-71

10-24-71

10-25-71

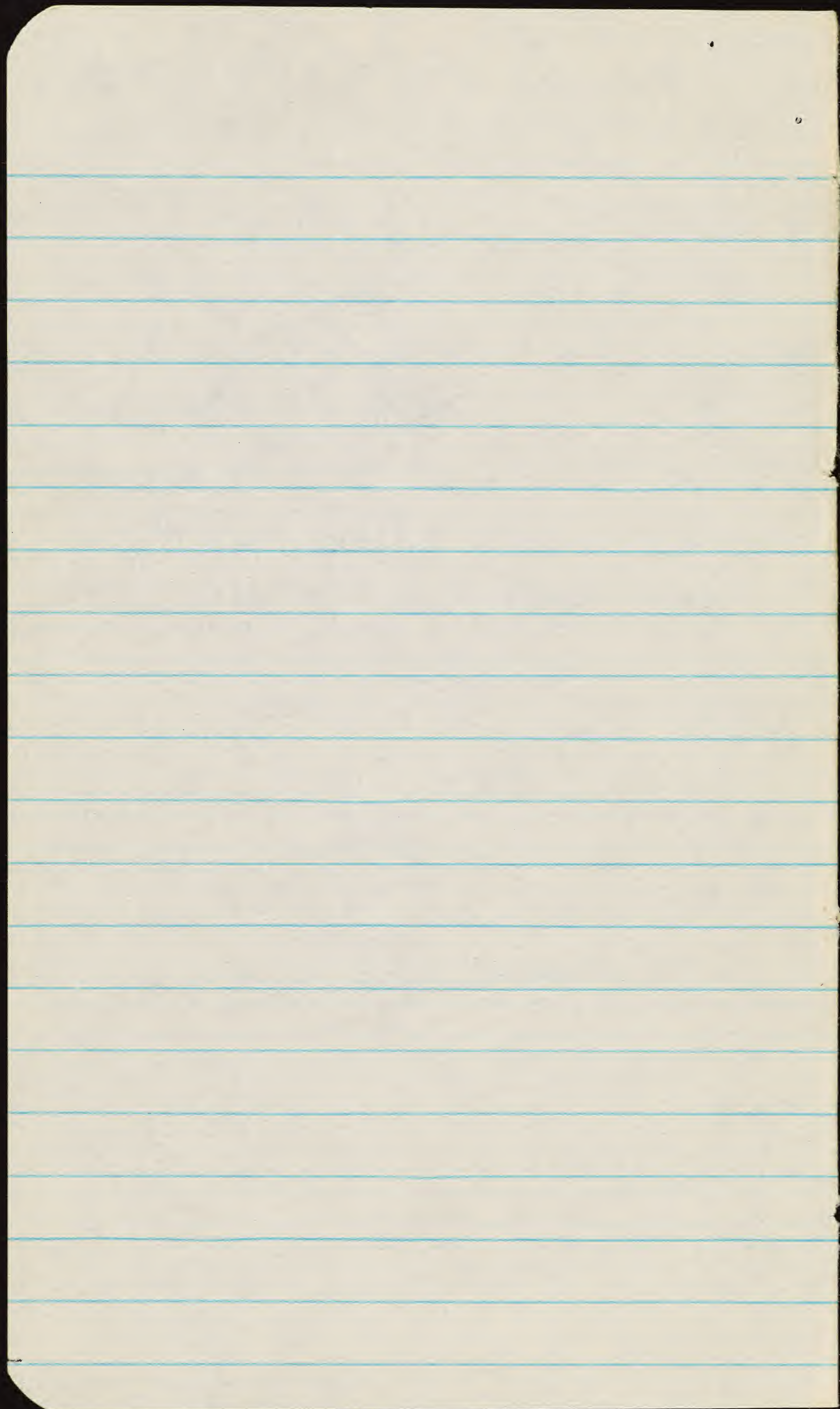
10-26-71

10-27-71

10-28-71

Newell's Shearwater¹³

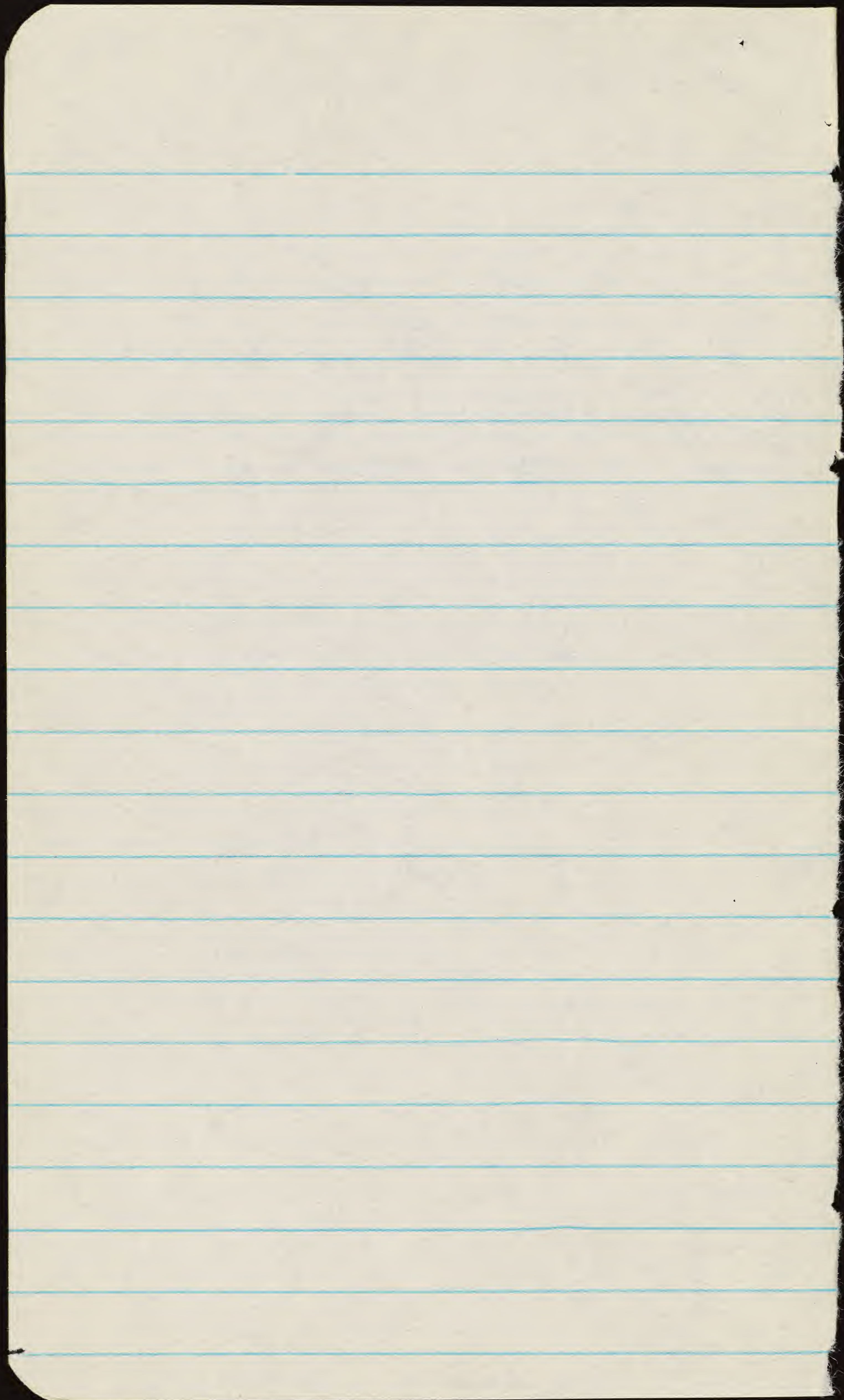
First individuals killed on roads between Lihue and Kilauea Pt. on October 1 - total of 6 killed. Road between Kilauea Pt. and checked on the night of the 25th of October with no results.



White-tailed Tropicbirds

14

Tropicbird activity noted
around cliffs near Lihue
(2 seen) and in Waimea
Canyon where 16 were
seen on the 26th of October

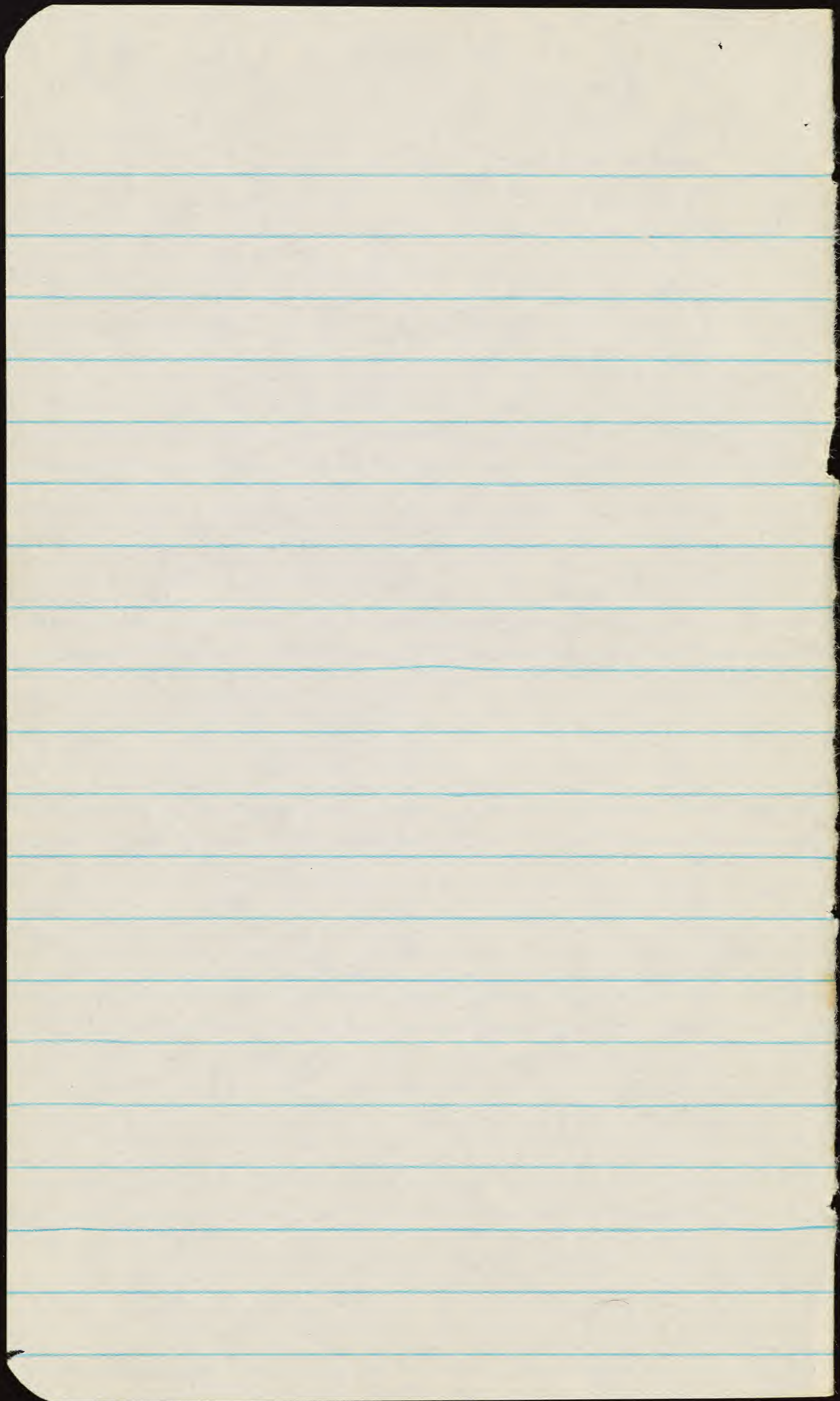


Nene

15

1/2 mi. S. Kokee Camp, Kauai

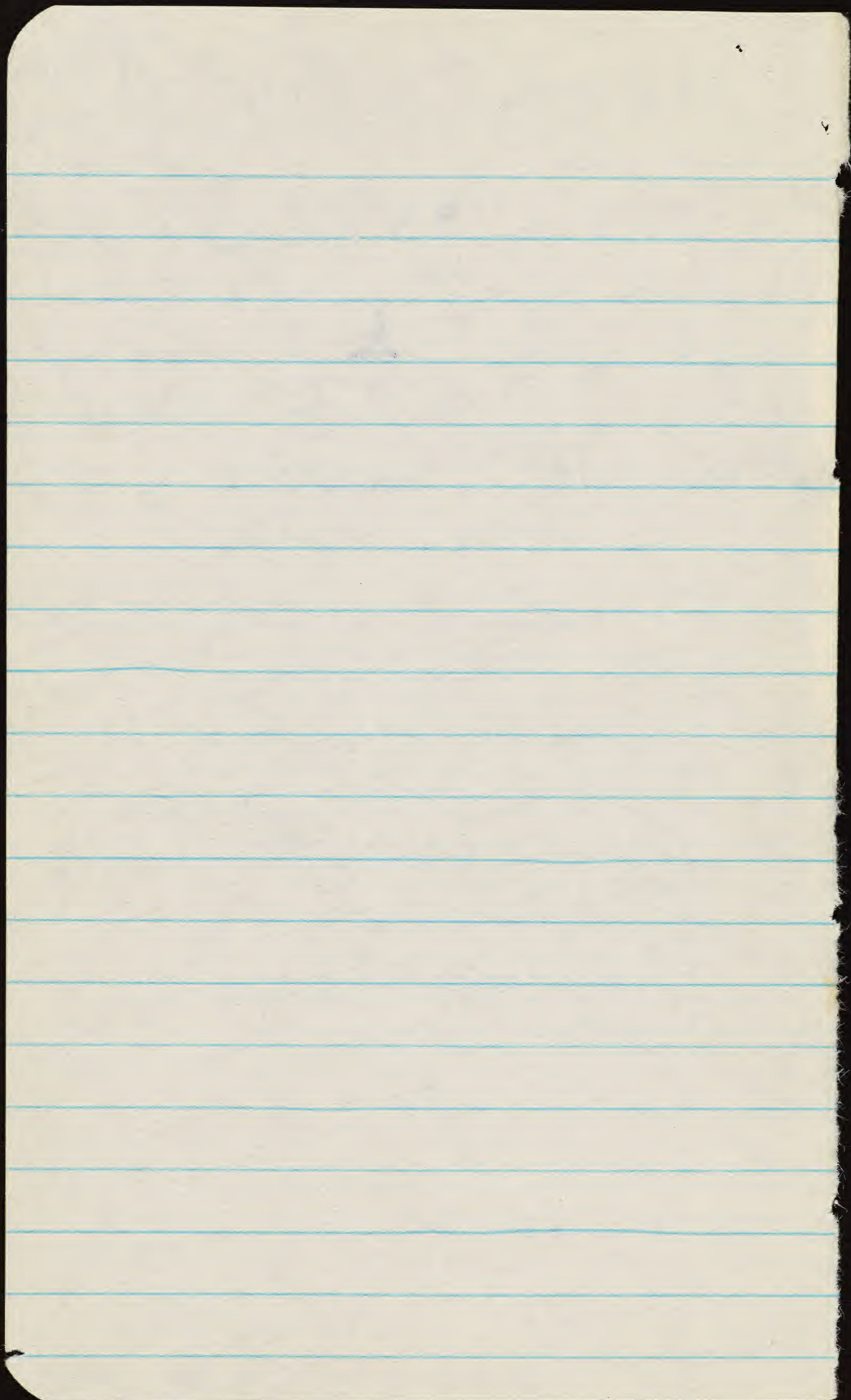
1 individual spotted crossing road.



Great Frigatebird

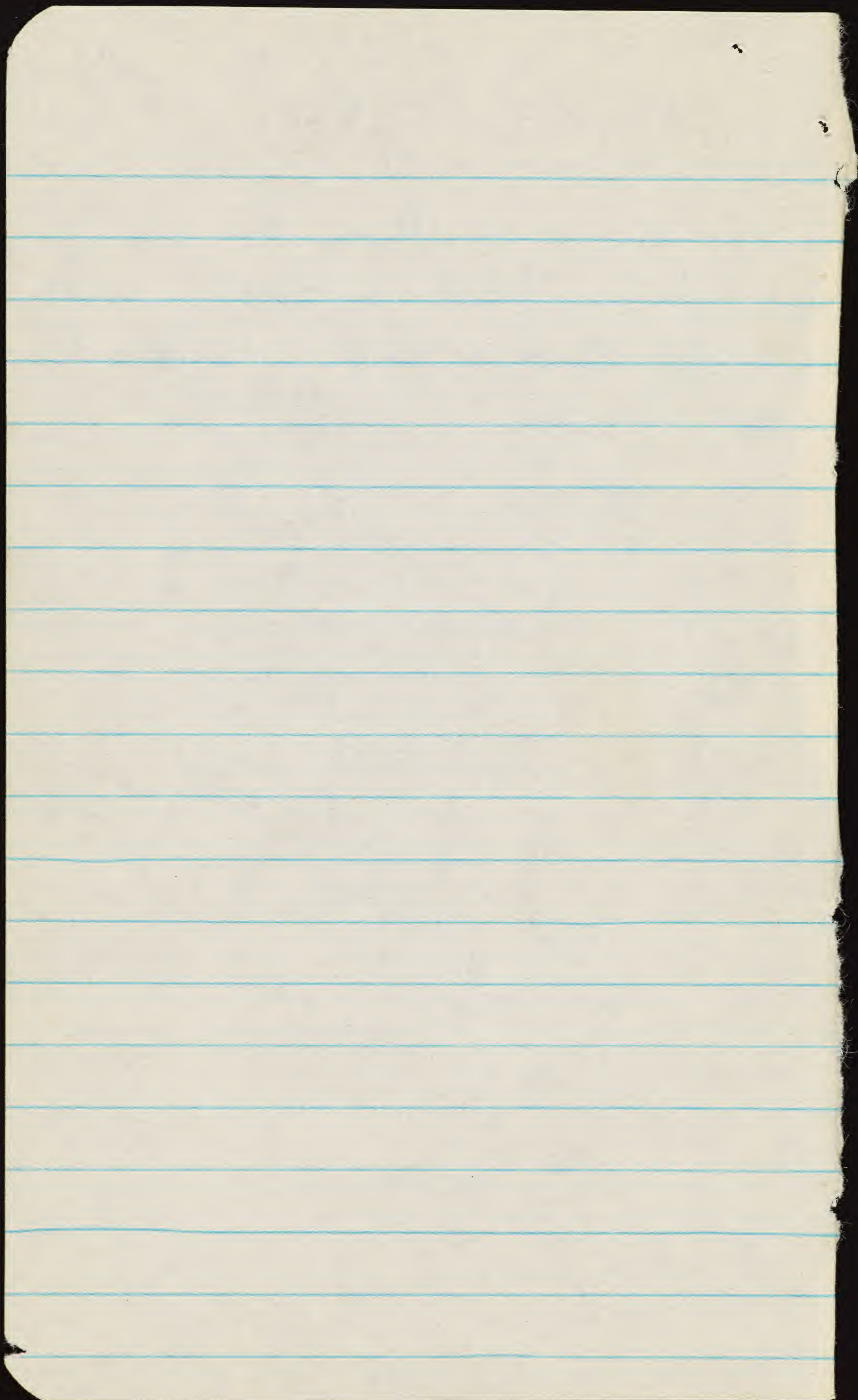
16

A total of **53** individuals including 25 males and 22 females (**6** immatures) were counted on Mokuapea Island at 7:00 A.M.



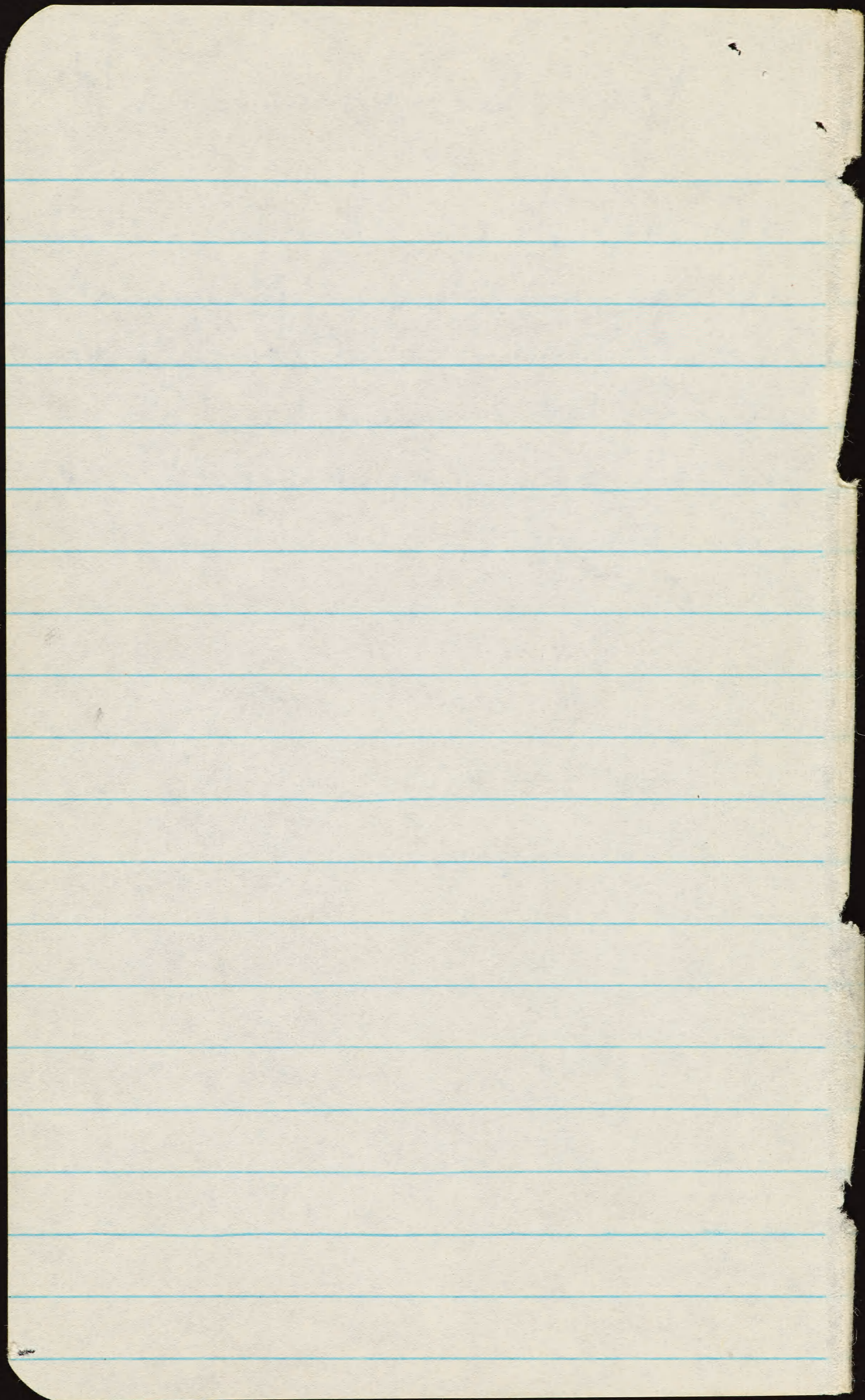
Mice and Rats

Twenty-one live-traps
baited with peanut butter
and pears were set out -
no luck



Leptodactylus lugubris 18

A total of 7 individuals were collected from the Coast Guard station building at night - another 8 were seen but could not be caught.



Summary:

19

RFB:

Population est.: 400 - 500

400 \pm 55

including: 329 adults and 83 imm

No. banded: 10

No. returned: 1

No. bled : 11

Wedgetail:

Population est.: 250 \pm 50

(includes adults only from

Makapele Ridge⁽⁵⁰⁾, Makapele

Cliffs (200, Kilauea: 30

No. banded: **25** (10 adult, **15** yg)

No. returned: 0

No. bled : 10

Mammals: none

Reptiles:

#7 *Lepidodactylus lugubris*

1

Kauai

26 Nov '67

Fitch

International Airport, Oahu, Hawaii

26 November 1967

Departure by Hawaiian Jet Air

0920 for Kauai. - weather

at Honolulu cloudy and

rainy - temp: ~~40~~ low 70s -

wind slight and from North

Beginning sera # H7 R 152

Waves at 3-5 feet - whitecaps

Cloud ceiling at 3000-4000

ft. Landed at Lihue at

10:30 A.M. and picked up

Rental car from Tony. Drove

to Kilanea Pt. arriving at 11:30 -

Contacted Bob and Judy Walker -

Drove to Mokapele Cliffs

after making a count of

RFB colonies A and B. A had

12 adults + 1 immature @ 1:15 PM

and B had 150± adults and

16 immatures and 9

subadults at 2:00 P.M.

Made a count on Mahapele
Cliffs as high as possible and
squalls allowed: 350 ± 10
adults, 47 immatures
14 subadults.

Kilauea Pt. 26 November 1967

Windy - waves 8-10 ft.

Sub Colony B:

150 \pm 10 Adults

(142 Fitch, 160)

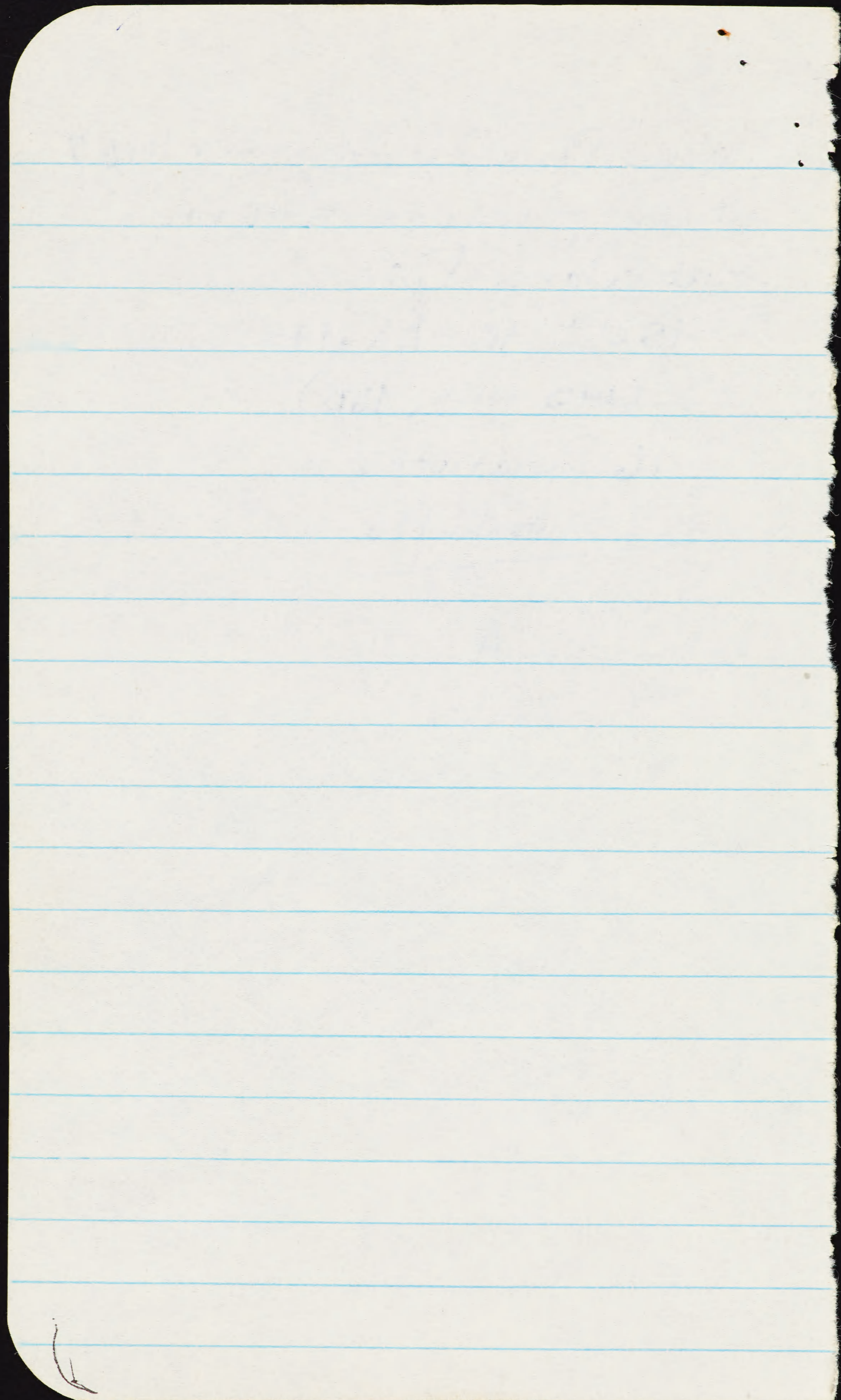
16 immatures

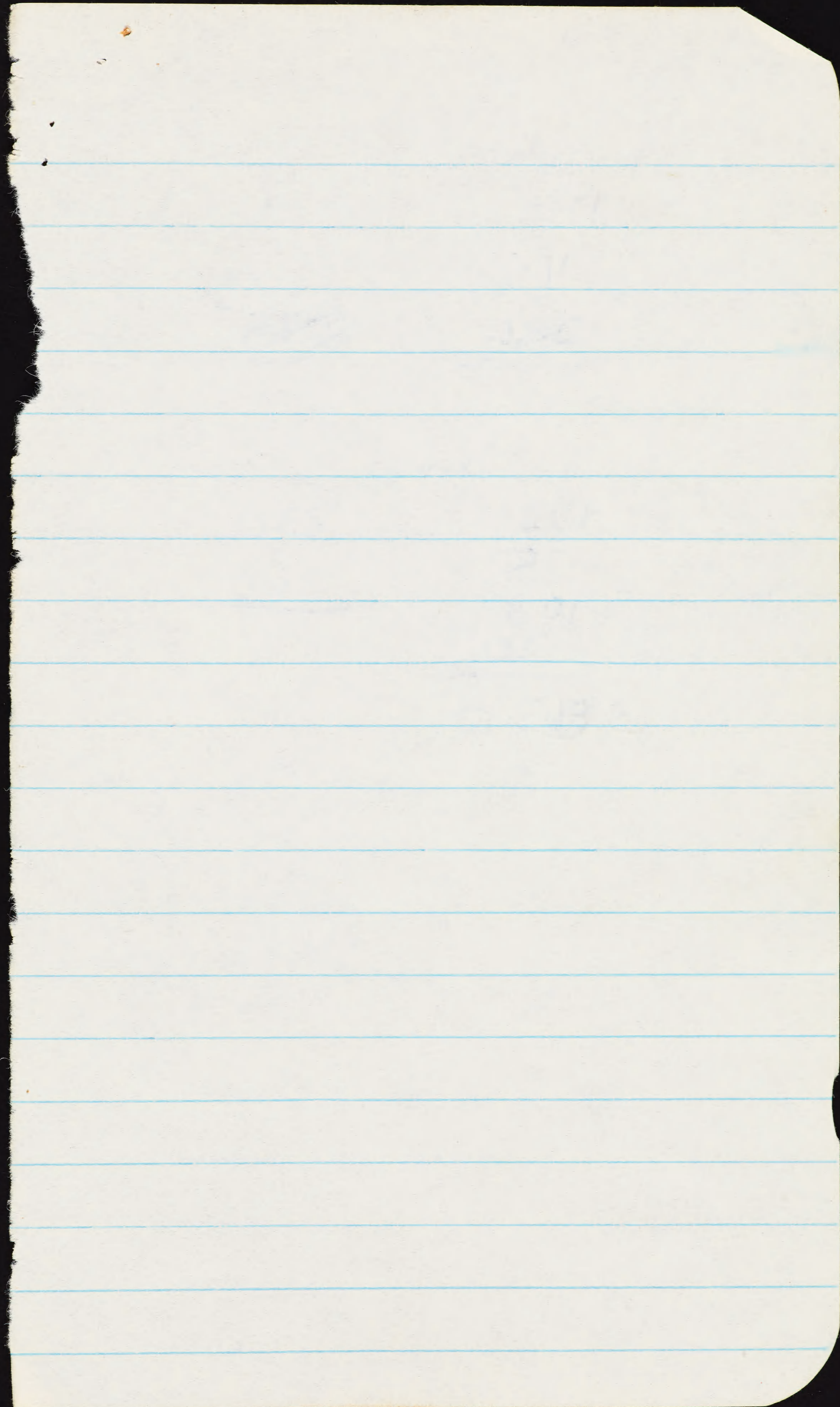
9 subadults

Sub Colony A

12 Adults

1 immature





25
115

9

45 -

~~236~~

~~215~~

Imm

172

35

103

20

330

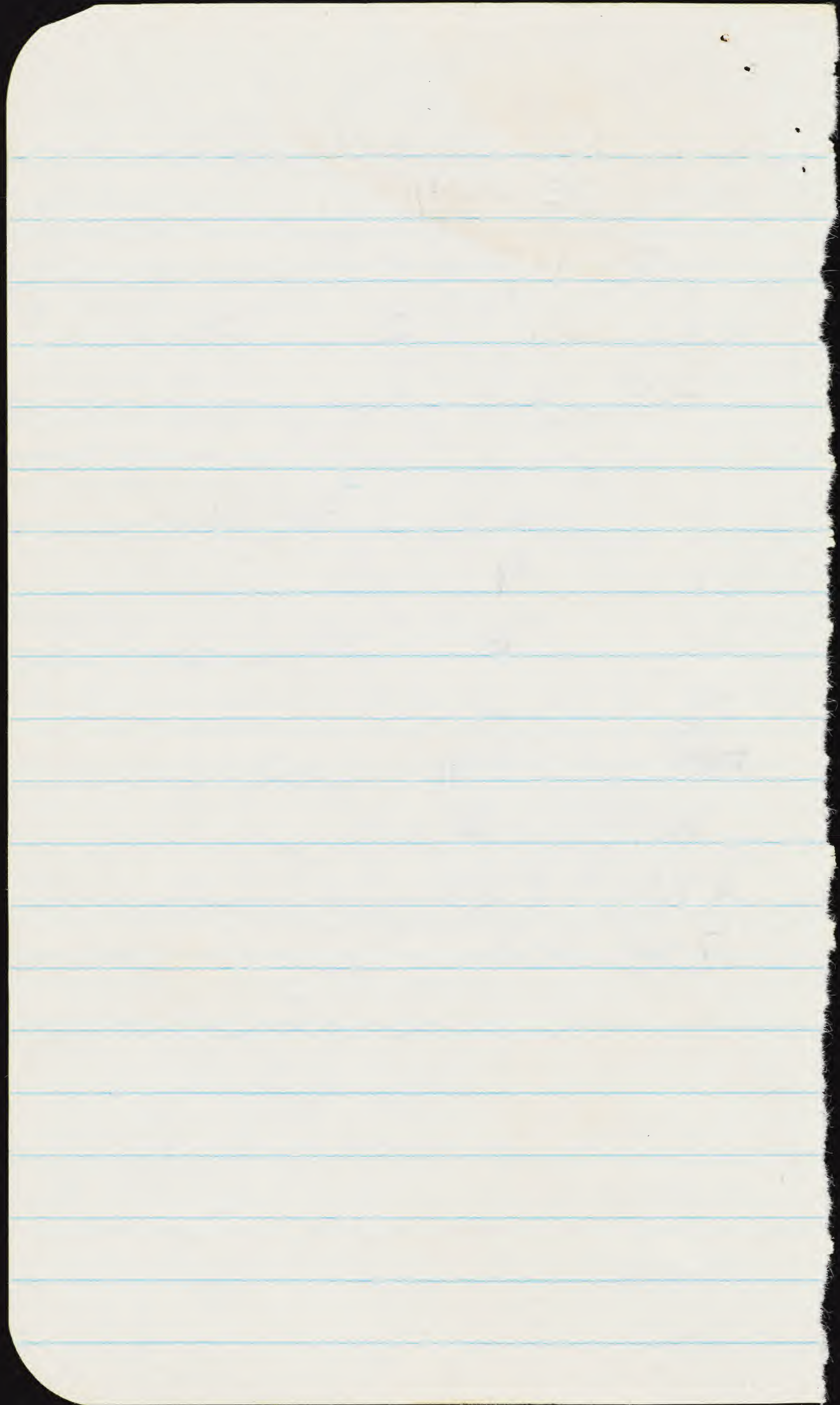
330

360

19
13
32

	Imm.	Sub Ad	
172	22	7	33
35	11	3	14
103	9	2	47
20	5	2	
<u>20</u>	<u>5</u>	<u>2</u>	

	Imm.	Sub Adult
³ 3	9	150
102	6	100
84	2	
19	24	{ 300
175.	8	
100	27	
86		
<u>275</u>	<u>27</u>	
<u>741</u>		



5:45 P.M.

1300

800

$$\begin{array}{r} 97 \\ 86 \\ \hline 11 \end{array}$$

BAND RECORDS

Makapule Cliffs, Kauai 26 Nov. 1967

Bands used:

645-25585 ? missing

645-25586-97 (12)

Bands returned:

645-25603

645-25601

Kilauea Point, Kauai 26 Nov. 1967

Bands used:

705-11201-02 (2)

645-25598-600 (3)

767-44511-12 (2)

Bands returned:

597-12442

597-12449

Summary:

17 birds banded including

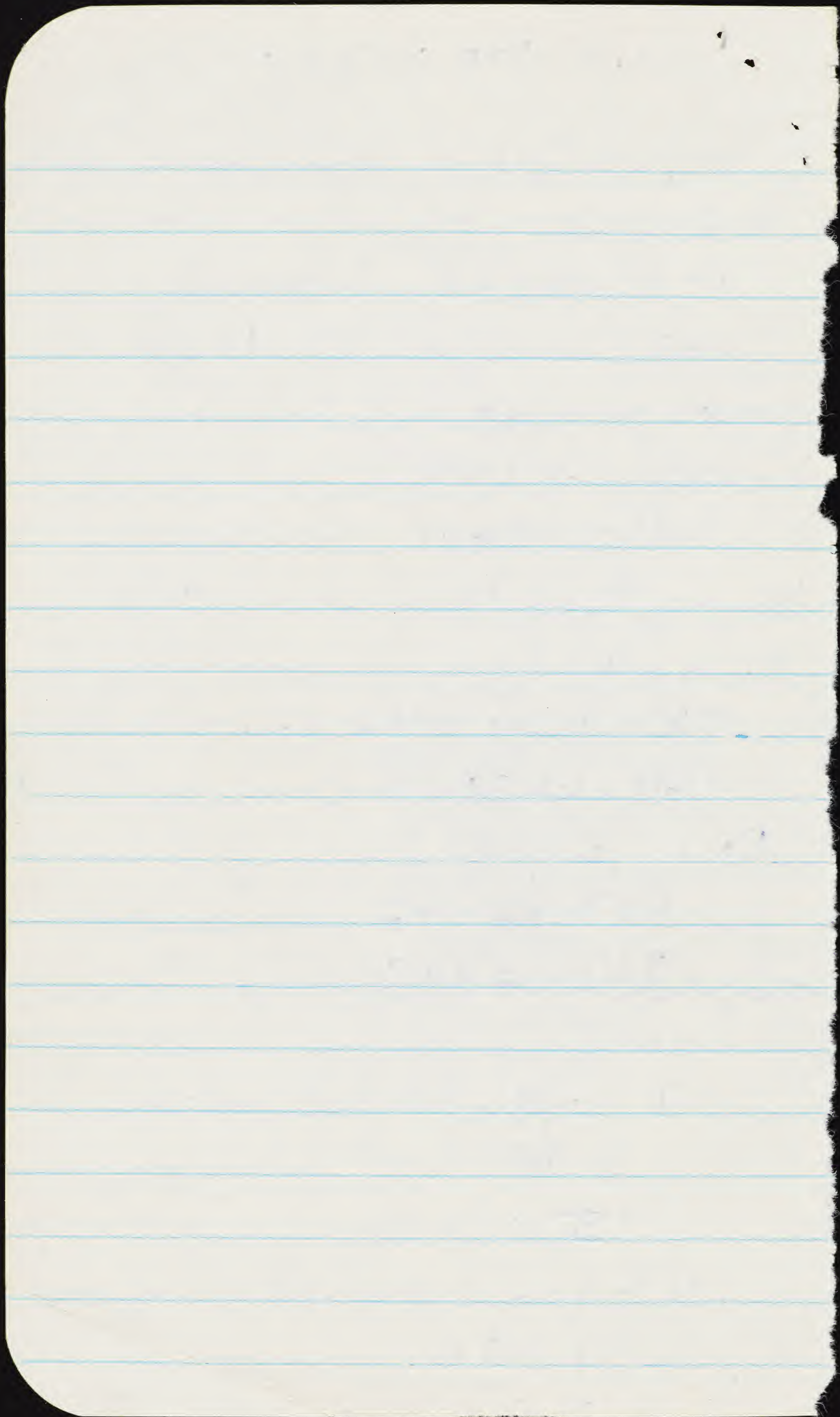
2 RFB

15 WTS

4 birds returned including

2 RFB

2 WTS



POPULATION ESTIMATES

Kilauea Point, Kawai 26 November 1967

RFB:

Ad. Imm. SubA

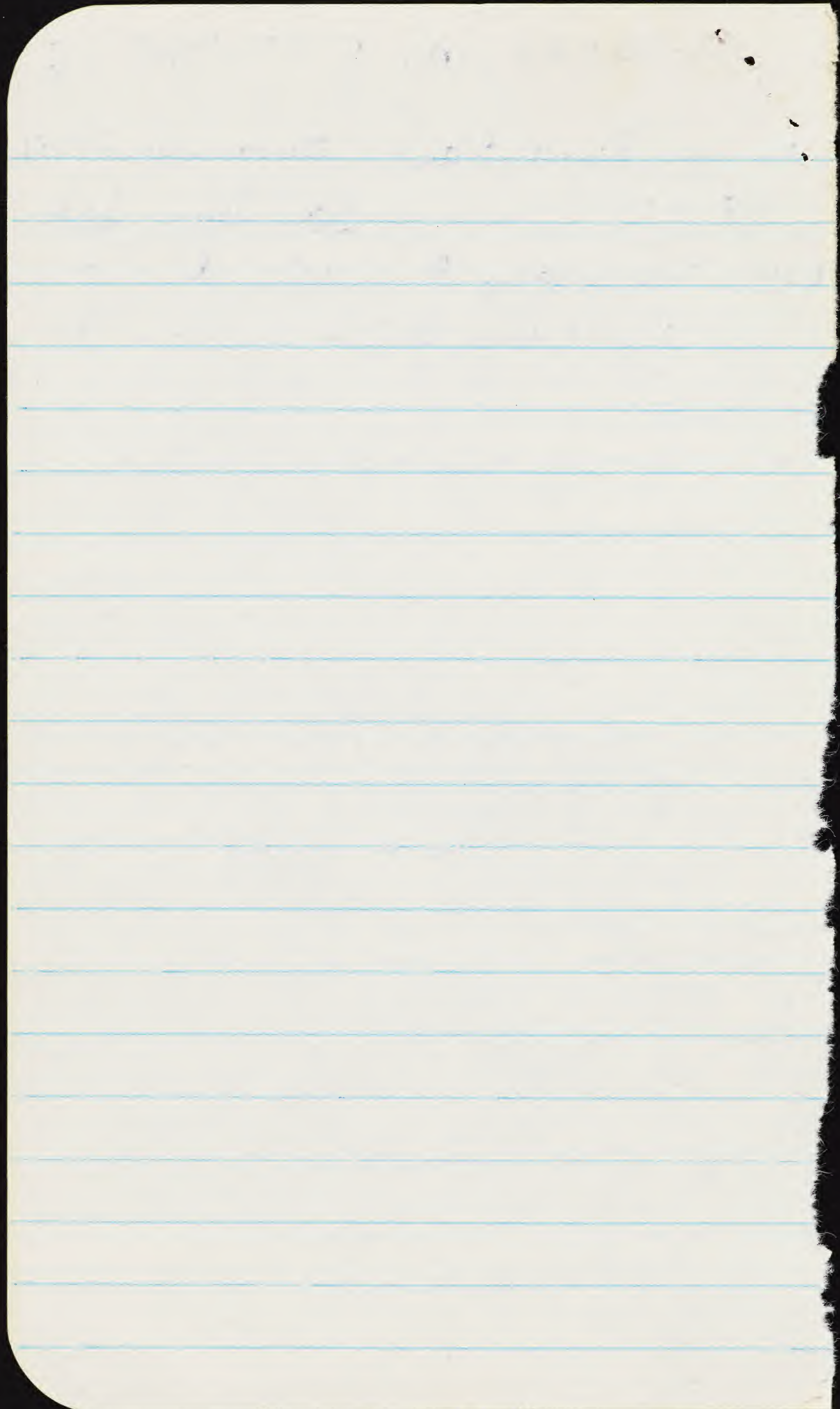
(1345) Sub-Colony A 12 1 -

(1345) Sub-Colony B 150 16 9

(0830) Sub-Colony B 106

WTS:

10-20 Adults and Immatures



Kilauea Pt. Kawai
Nov 26-27, 1967
Fitch

Bands issued:

Kilauea Pt. Hawaii

705-11201-11300

767-44511-600

H7K 171 →

Bands used:

167

705-11201-02 (2) 168

767-44511-12 (2) 169

172

Returns:

597-12442

166

173

597-12449

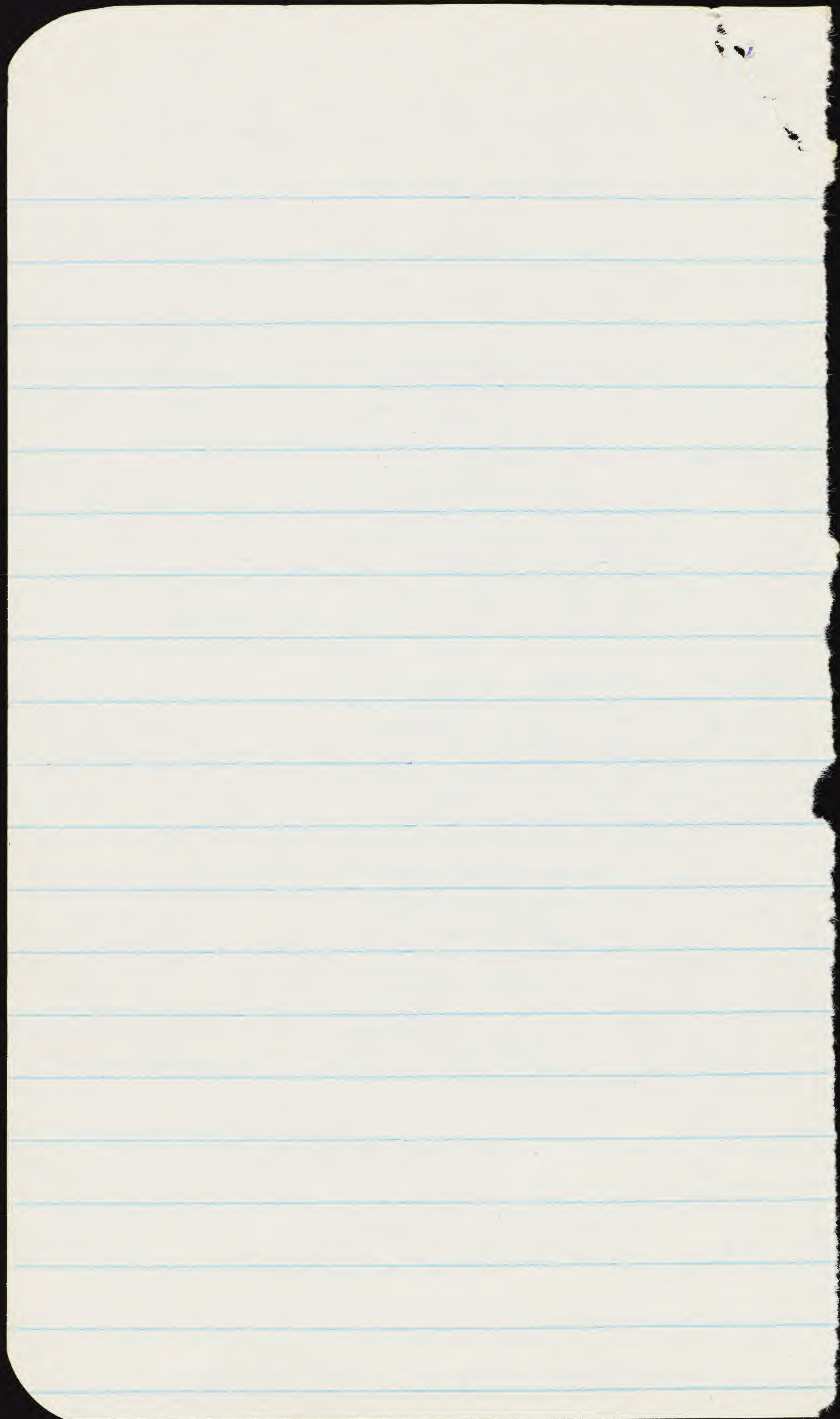
174

170

Kilauea Pt. Kauai

Nov 26 '67 - 2120-2340

- 25 RFB 597-12449 ♂?
- 26 WTS 645-25598 Imm
- 27 " 645-25599 Ad
- 28 " 645-25600 Ad
- 29 RFB 597-12442 ♀
- 30 WTS 705-11201 imm.
- 31 RFB 767-44511 ♀
- 32 RFB 767-44512
- 33 WTS 705-11202 Ad.



Bands Issued: **Kawai Fitch**

645-25585-255600 →
3:00-6:20 P.M.

Makapule Cliffs, Hawaii 26 November 1967

L 645-25603 - Imm ^{Brown} 4

~~645~~ 645-25586 - Imm with ~~down~~ ^{down} 2

3 645-25587 " " "

4 " " 88 " " "

5 " " 89 " " "

6 " " 90 " " "

7 " " 91 " " "

8 " " 92 " without

9 " " 93 " without

10 " " 94 " with down

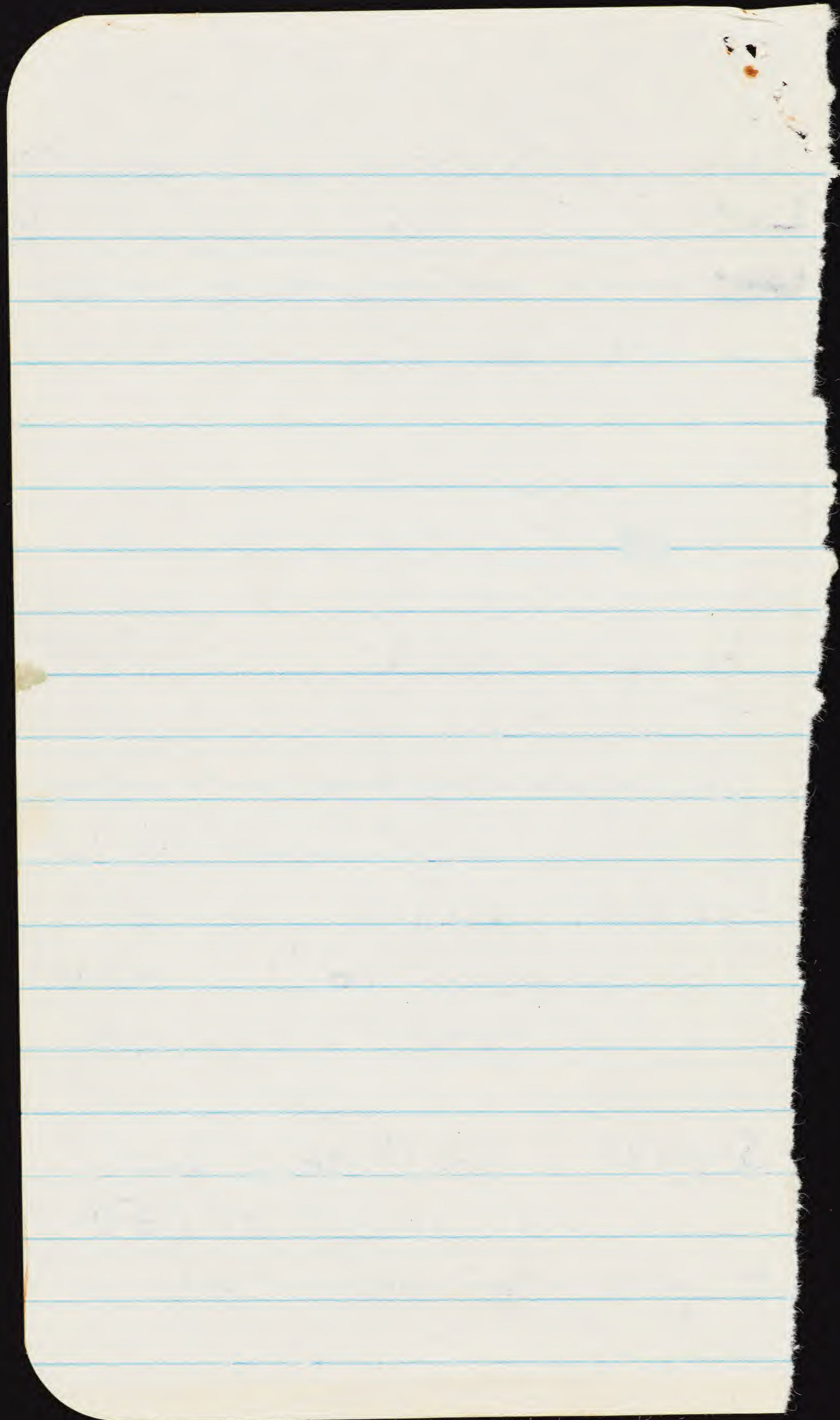
11 " " 95 " without

- 12 645-25601 yes

13 645-255 96 Imm. without

14 645-255 97 Imm with down

Samples 1 thru 14 are assigned
Serum sample numbers H7K152
through H7K165 consecutively



Kilauea Pt., Kauai Fitch

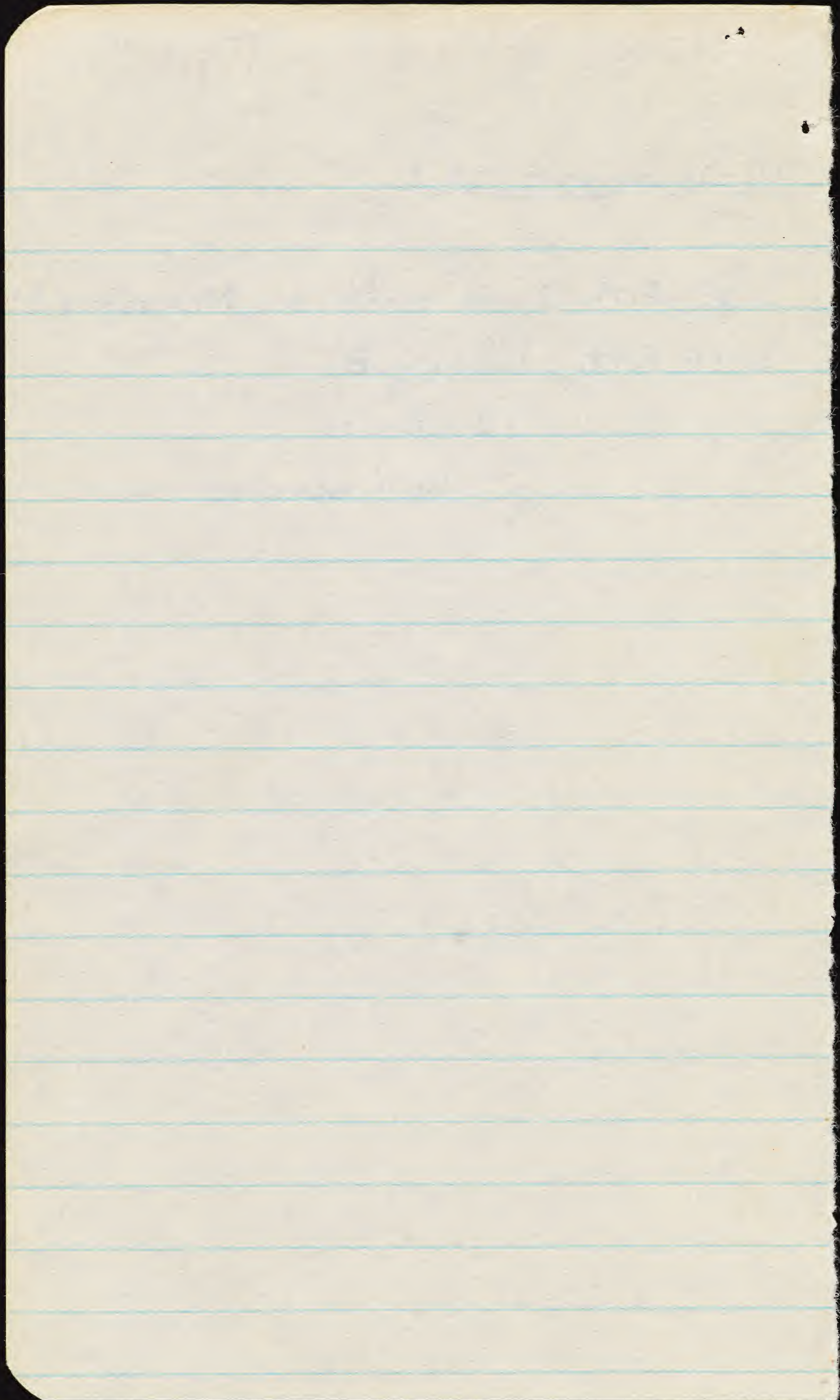
27 December, 1967

3:35 P.M. : no birds on Mokuapeape Isl.

3:40 P.M. Colony B:

13 adults -

no immatures



4:50

35 adult 2 imm.

17 adult 0 imm.

29 adult 1 imm.

133 adult 3 imm 2 sub-adult

214 6 2

4 Frigate chases

1 ~~4~~ adult RFB vs. Frigates

1 immature RFB vs. Frigates

all unsuccessful

59 birds in trees -

57 adults - 1 subadult - 1 imm.

•

~~92~~ 92

~~2~~ Brown boobies - in caves or
crevices under the RFB
colony -

4 preening pairs of LFB - all on
grass - lower vegetation - NOT
on trees

1 Tropic bird - 3:45

5:35; imm. RFB versus GF -
Successful

5:20 RFB count

67 adults - 2 sub 1 imm

27 "

35

166

3 sub

1 imm

295

5:20 Brown Booby Count

102

5:45 PFB

~~12~~

~~12~~

~~5.11~~

127 Adults 12 Imm.

9 5.11

40

2

3

25

62

3

228

6

13

482

9

1

25

~~25~~

11

7

5

1

1 imm.

2

Coming in

8 Ad. 1 imm.

2

1

1

2

3

1

1

12

1 Ad.

15

3 imm

1

20

2

8

1

3

5:45 B.B

172

Brown - RF Chase - Brown

Uars off

Frigate forced RFB into water

Frigate - RFB (forced into water)

~~RFB coming in~~

~~✱~~

✱ ✱ 5

✱

6:30

125 RFB

Colony between B and C

75 RFB Colony B

Summary:

Sera sampled: 31

Recaptures: ~~37~~ 27

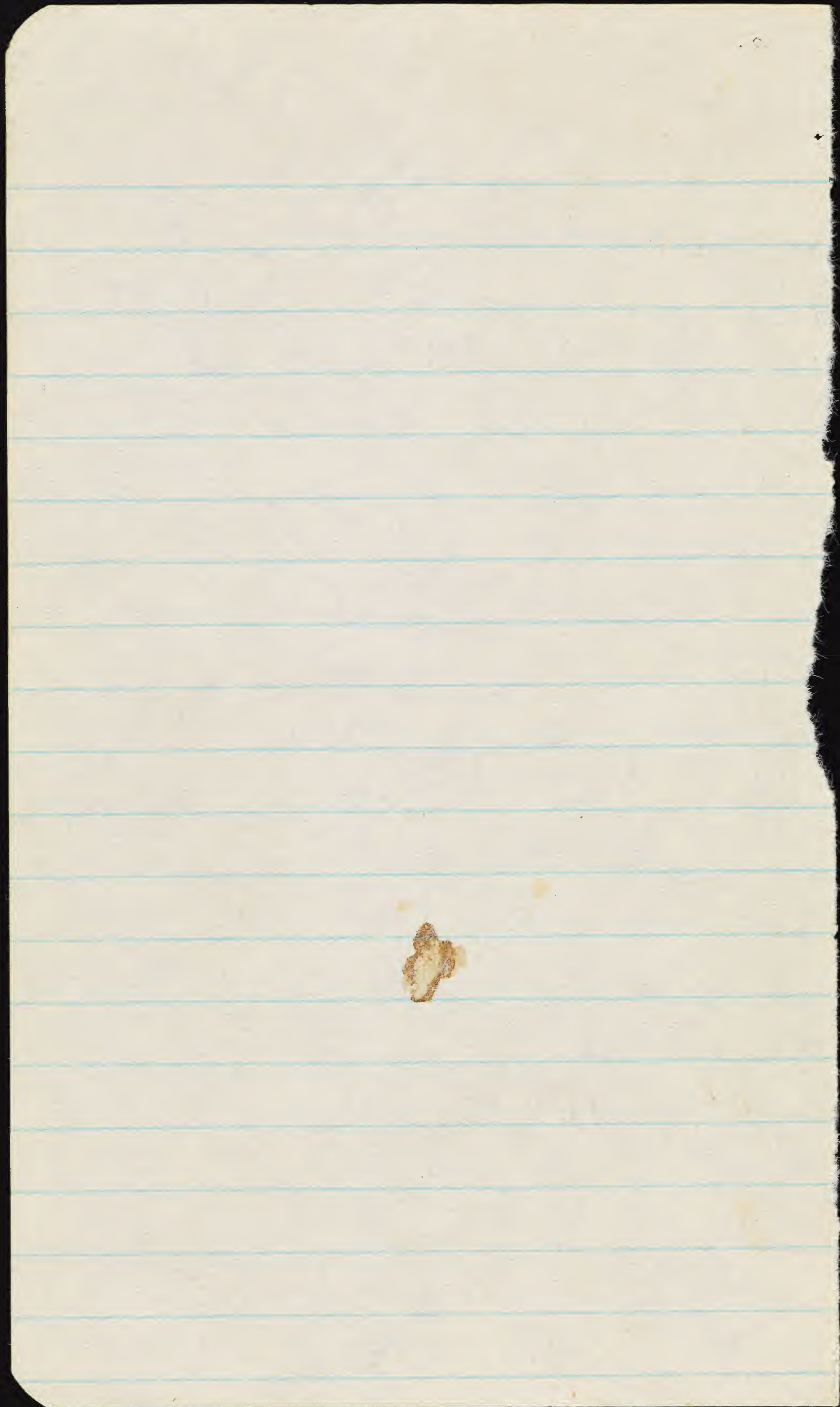
Banded: 24

Jul 67	587-84912 imm.
July 64	597-12410 ad.
Jul Mar. 64	597-12607 ad.
Jul Mar. 64	597-12608 ad w egg
Mar. 66	757-61109 ad.
Nov. 66	767-50049 w/egg
Sept. 67	767-53119 ad.

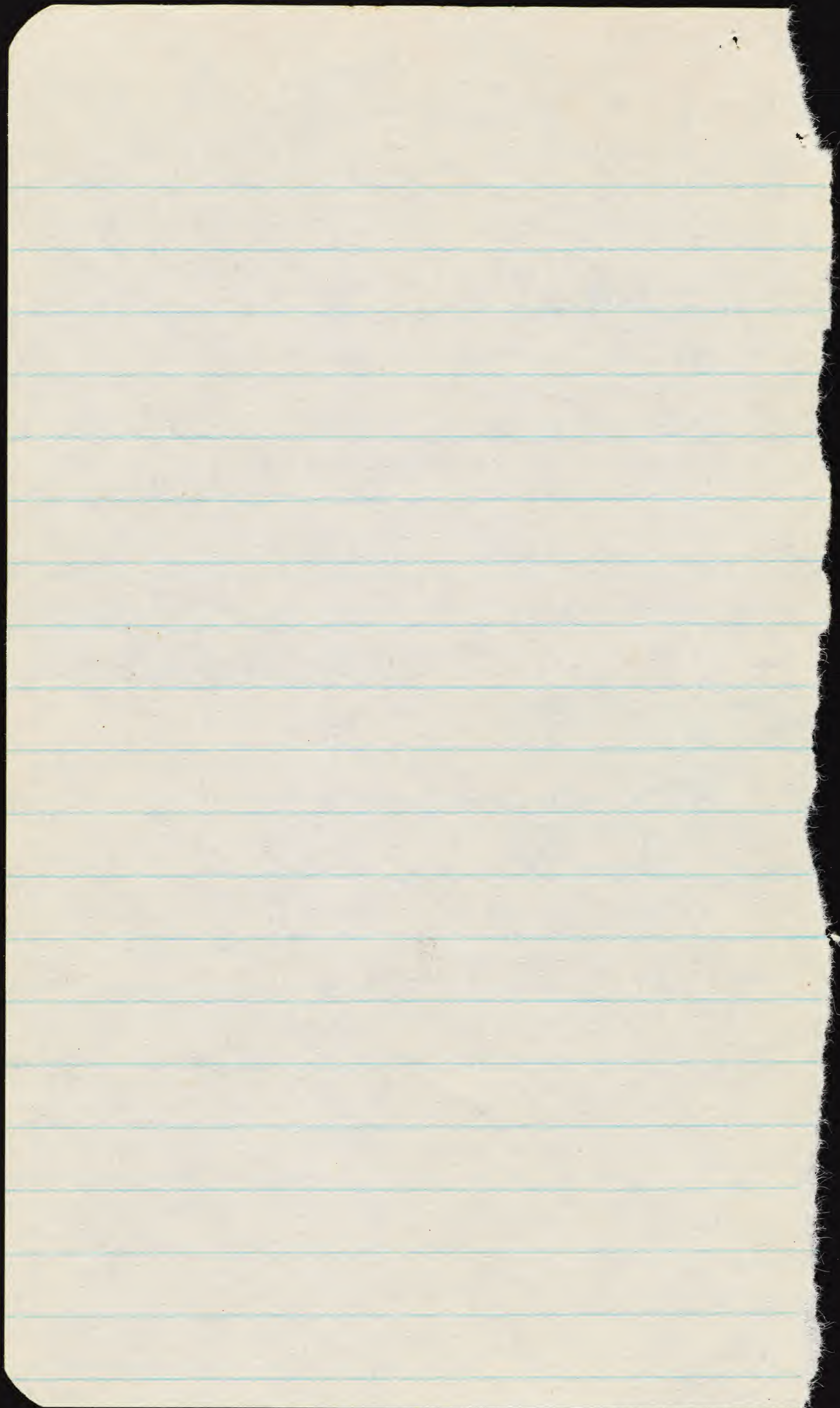
767-44513 - 36 (24 bands)
used

27 Dec. 1967 Kilauea Pt.

1	13	adult	1-18 at new colony between B and C - all adults in new plumage - prob. breeding
2	14	adult	
3	15	imm	
4	16	imm	
5	17	imm	
6	18	adult	
7	19	imm	
8	20	subad	
9	21	ad	
-10	597-12607	ad	
11	22	ad	
-12	597-12410	ad	
13	23	ad	
-14	767-53119	ad	
15	24	ad	
16	25	ad	
17	26	imm	
18	27	ad	



19	adult	28	19 -
20	imm	29	at colony C on Makapili
21	ad	30	
22	ad	31	
- 23	imm	587-84912	
- 24	ad	757-61109	
25	ad	32	
- 26	ad ♀	767-50049	with large chick
27	ad	33	
28	subad	34	
29	ad	35	
30	ad	36	
- 31	ad ♀	597-12608	on egg



Colony C

~~egg~~

~~NT~~

~~small naked~~

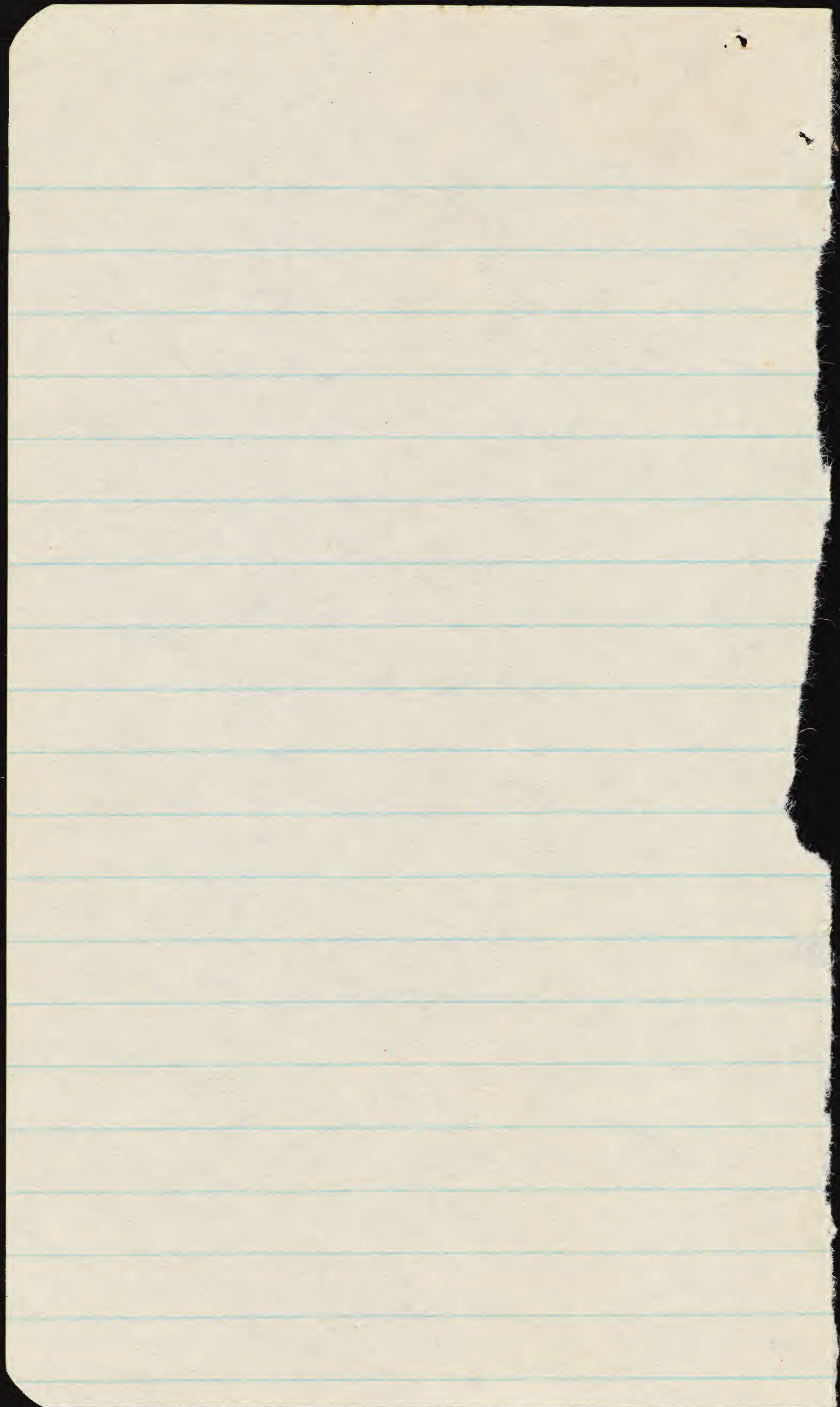
~~11~~

~~small nestling~~

~~11~~

large nestling

1



Colony C

Count of Yg.

29 December 1967 Makapule Cliffs

1 egg

III III

2 egg

1 naked ck II

2 naked ck

1 small downy ck 1 (dead), II

1 large downy ck II

15 nests

